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Supreme Court of the United States

OCTOBER TERM, 1921

No. 257

CHARLES D. NEWTON, AS ATTORNEY-GENERAL OF THE STATE OF NEW YORK, EDWARD SWANN, AS DISTRICT ATTORNEY OF THE COUNTY OF NEW YORK, AND LEWIS NIXON, CONSTITUTING THE PUBLIC SERVICE COMMISSION OF THE STATE OF NEW YORK FOR THE FIRST DISTRICT, *Appellants,*

against

CONSOLIDATED GAS COMPANY OF NEW YORK, *Appellee.*

APPELLEE'S BRIEF ON THE FACTS AND INCIDENTAL QUESTIONS OF LAW

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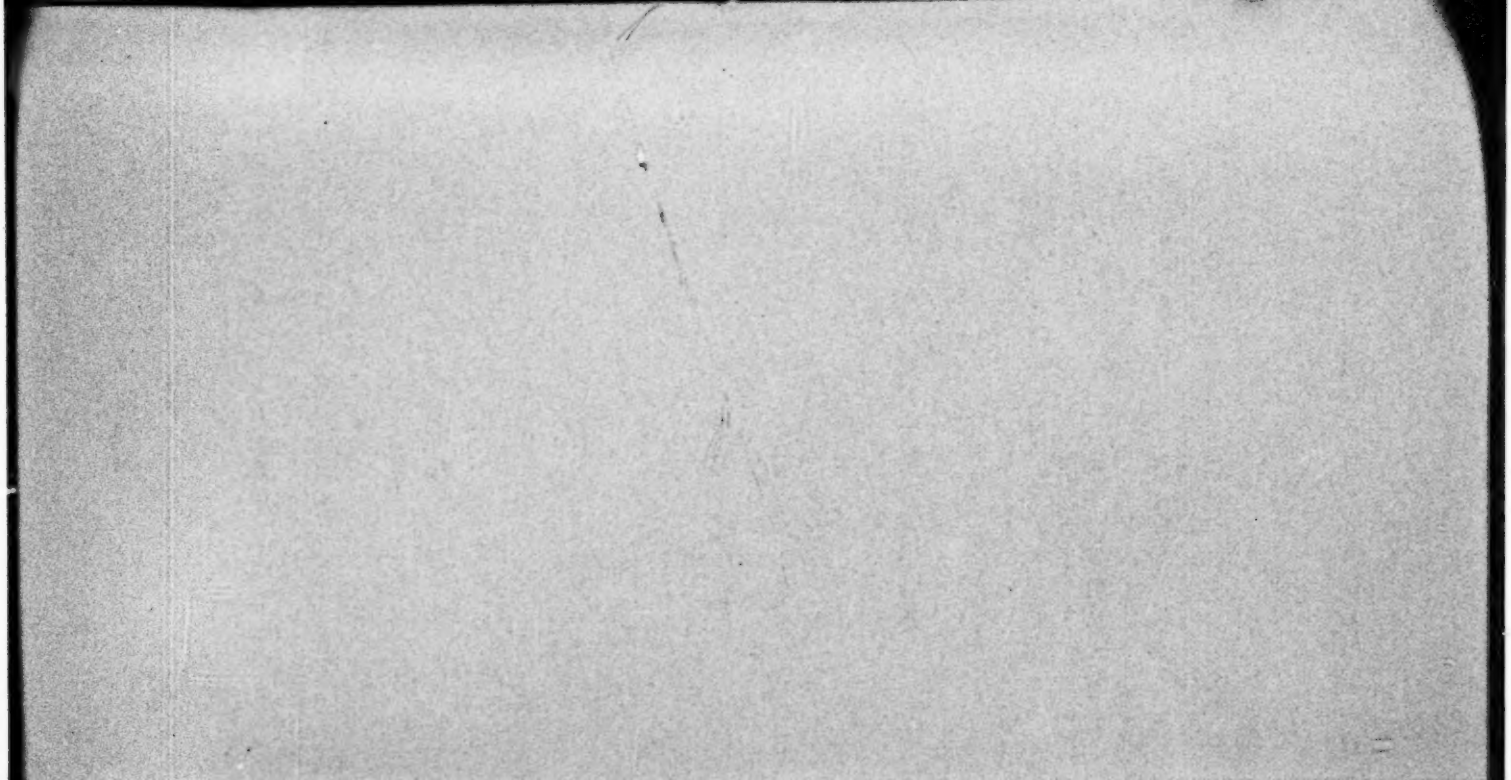

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(1) The properties and values found in the prior suit (157 Fed. 849; 212 U. S. 19), less withdrawals therefrom since 1906, plus net additions since that time, with detailed proofs that such properties are now worth at least as much as, and in fact substantially more than, in 1906 or subsequent dates of installation..... 345

(2) The detailed inventories and appraisals of the properties in 1906, by the testimony under oath of the witnesses, since deceased, who made the appraisals in the former suit and testified to them. With this was coupled proof that unit prices of labor and materials in 1919 were substantially higher than the unit prices used in 1906 346

(3) As to land unimproved, the appellee called to the stand, *as its own witnesses*, the expert real estate appraisers who, as officials of the City of New York, fix the values of real property for purposes of taxation. These public officers, chosen by competitive examinations under the civil service, are required by law to make sworn annual reports of the sum for which, in their opinion, each parcel of land would sell, under ordinary circumstances, if wholly unimproved (City Charter, Sec. 889; Exhibit 208, page 16,365). This statutory standard of official duty in the ascertainment of real estate values corresponds closely to the formula laid down by

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this Court in the *Minnesota Rate Case* (20 U. S. 352). The New York law also explicitly requires such tax officials to assess all land at full value. Without undertaking to say that the market value of its land was no more than these assessed values, the appellee took the position below that it was entitled, as to its land, to earn a return upon *at least* the sum on which the public authorities required it to pay taxes. If this value of land was not too high for *tax* purposes, the appellant public authorities should not be permitted to claim it too high for *rate* purposes. Adhering to his acceptance of the view, urged by the appellants, that "present value," even of land, must be measured only by original *cost*, the Master found that the value of the appellee's land unimproved was *at least* such original cost, but also found that such land would sell for at least the values testified to by the Tax Commissioners (Finding No. 65; Record, page 39a) 347

(4) After the appellants, on their case, had offered in evidence an "adjusted" book cost, in which a substantial part of the whittling down was due to an utterly unwarranted use of figures partly "*figured out of the air*" (Record, page 13,933) and partly from a vindictive report made by a minority of one member of a State Senate Committee in 1886 (Exhibit AA46; Record, page 17,706), discussed in detail under Point XIV, on page 471 *et seq., post*, the appellee offered in rebuttal detailed and undeniably accurate statements of its investment in gas properties from 1884 to 1920 (Exhibit 398; Record, page 16,898; Exhibits 471, 472, 473, 474, 475, 496; Record, pages 17,136

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to 17,444). As to property acquired in 1884, the actual cost thereof to the appellee was confirmed by the inventory and appraisal thereof at that time and by the majority report of the Senate Committee 347

(5) As bearing on the correctness of the *actual* figures of investment, proof was offered as to the recogniezd or standardized approximate unit amount of investment required in plant, property, etc., to produce and distribute gas in and near New York City; this was found to exceed $4.00 per thousand cubic feet of gas sold, as is shown in full detail under Point XIV, *post*..... 348

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Supreme Court of the United States

OCTOBER TERM, 1921—TERM NO. 257.

CHARLES D. NEWTON, as Attorney-General of the State of New York; EDWARD SWANN, as District Attorney of the County of New York; and LEWIS NIXON, constituting the Public Service Commission of the State of New York, First District,

Appellants.

against

CONSOLIDATED GAS COMPANY OF NEW YORK,

Appellee.

BRIEF FOR THE APPELLEE

ON THE FACTS AND INCIDENTAL QUESTIONS OF LAW

In the General Brief filed herewith, the appellee has dealt succinctly with issues which it deems decisive of this appeal:

(1) The previous decision of this Court (Willcox vs. Consolidated Gas Co., 212 U. S. 19).

(2) The occasion for the present suit.

(3) The standing of the three appellants.

(4) The attacks upon the Special Master.

(5) Judicial notice of controlling facts.

(6) The rate of return.

(7) The sufficiency of the test period.

(8) The special franchises.

Within reasonable limits of length, detailed reply could not be made to each of the contentions and mis-statements of fact which run through the 785 pages of the appellants' briefs, with their fragmentary references to a record which comprises 19,849 pages, including 1,027 exhibits. These matters were thoroughly litigated upon the trial, and the falsity of each can be demonstrated from the record.

If this Court should desire to examine into the detailed facts concerning any or all of the contentions insistently urged by the appellants, this brief has, we trust, been made sufficiently comprehensive to furnish the required *resume* of the testimony, with the supporting citations.

STATEMENT

The appellee (the Consolidated Gas Company of New York) supplies gas to consumers in the Borough of Manhattan, City of New York. During the year 1918, the sales of the company in this territory amounted to 18,029,245,000 cubic feet of gas (Exhibit 364; Record, page 16,628).

In his calculations, the Special Master assumed the 1919 sales would increase to nineteen billion cubic feet. The District Court, in its calculations as to the cost of gas for the future, assumed sales of twenty billion cubic feet.

This increase beyond warrant was assumed so as surely to resolve all doubts against the company and reduce all costs to the lowest possible figures (Record, pages 166a-168a, 183a).

Of the eighteen billion cubic feet of gas sold in 1918, the company made in its own plants on Manhattan Island only about eight billion cubic feet.

The company owns water gas plants at East 21st Street and East 99th Street, and coal-gas plants at East 14th Street and West 42nd Street, on Manhattan Island. The two coal-gas plants in Manhattan had for several years been used as reserve plants for emergencies or periods of heavy winter demands.

The combined maximum daily manufacturing capacity of the appellee's Manhattan plants was 43,500,000 cubic feet of gas per day. The remainder of the gas sold by the appelle is procured from other companies, principally the Astoria Light, Heat and Power Company.

The appellee owns all of the capital stock of the latter company, which owns and operates a large coal-gas and water-gas plant at Astoria, across the East River from the Borough of Man-

hattan. The entire product of the Astoria plants is sold to the appellee, and is brought under the East River by tunnels. For all practical purposes, the Astoria Company is an operating department of the Consolidated Company.

At the time of the commencement of this suit, the capacity of the three manufacturing units at Astoria was as follows (Record, page 49a):

Unit A—Coal Gas	Ten million cubic feet per day.
Unit B—Coal Gas	Ten million cubic feet per day.
Unit C—Water Gas	Thirty million cubic feet per day.

During the progress of the trial, the virtual exhaustion of the reserve manufacturing capacity required the construction of an additional water-gas unit, to give thirty million cubic feet more of daily capacity to the Astoria plant. This "Unit D" of water-gas gives to the Astoria plant an aggregate capacity of 80,000,000 cubic feet of gas per day.

Gas made on the east bank of the East River is delivered to the appellee's mains by means of tunnels owned and operated by The East River Gas Company of Long Island City, one of the appellee's subsidiary companies.

The method by which gas manufactured by the Consolidated Company or its various subsidiary or controlled companies is transferred from one company to another or from one portion of the territory to another, as may be required by the consumers' demand for gas, so that there shall at all times be available to the consumers of all the companies an adequate supply of gas, is fully described and discussed hereinafter.

Summary of the Basic Findings

As to the cost of making and distributing gas: Neither the Special Master nor the Court allowed the appellee its *actual* outlays, taking its plants and operations as they are. Instead, as we shall show in detail under Point II, *post*, both the Master and the Court reduced the appellee to the lower operating cost that would result if all the gas sold by the appellee were manufactured in the most modern, efficient and economical units, at the Astoria plant. All costs were reduced "unsparingly" by the Court and "any possibility of error" (Record, page 167a) or doubt resolved against the appellee (Record, page 183a).

As to the so-called "rate base": The appellee contended its right to a fair return upon the present value of the property used in serving its consumers, and proved that this value was at least so much. The appellants contended that the appellee should be allowed a return upon only the *original cost of its property.* The Special Master *adopted the appellants' theory* and computed the return only on the appellee's actual investment. The Court reduced the investment found by the Master, said the present value was *twice* that sum, but then calculated a return only on the reduced investment figure.

Summarizing the findings upon the three vital factors of the inquiry, the Special Master found:

1. *As to the cost of gas:* That as of September, 1919, the total cost of the gas delivered to the consumers by the appellee was at least 82.13 cents per thousand cubic feet sold, to which should be credited 6.95 cents for miscellaneous revenue, leaving the net cost of gas at least 75.18 cents

per thousand cubic feet (Finding 61, Record, page 37a). The average selling price being 79.91 cents, the net profit as of September 1, 1919, was not more than 4.73 cents per thousand cubic feet of gas sold (Finding 62, page 38a).

2. *As to the rate of return:* That the reasonable and proper rate of return upon the capital invested in the appellee's gas business was not less than eight per cent. per annum (Finding 73, page 41a).

3. *As to the sum upon which a return is to be computed:* That the total amount upon which the appellee is entitled to have a fair return computed, including working capital, is $74,854,351.14 (Finding 70, page 41a). On the Master's basis of 19,000,000,000 cubic feet of sales for the year 1920, the foregoing minimum figures to be computed to show a possible or prospective net income of not more than 1.2 per cent. on the investment in the property or a fair return upon no more than $11,233,750 of such property (Finding 72; Record, page 41a).

The Master stated in the opinion filed with his report that prices of most gas-making materials were still rising, and that the cost of gas at the time of closing the case was undoubtedly higher than the figures found by him. (Record, pages 33a, 37a).

The Master refused to find the costs as of the time of closing the case, preferring to base his findings upon actual results during periods for which complete figures were before him (page 37a).

The figures found by the Master as the cost of manufacture of coal-gas and water-gas were lower by several cents per thousand than those shown

by the company, and were based upon adoption of the results secured at the most efficient and economical plants in the system, viz., those at Astoria, the evidence in support of which was introduced *by the appellants* (page 52a).

The Master's finding of the "rate base" was founded upon the actual investment to January 1, 1919 (Record, page 38a), beginning with the cost of the property to the Consolidated Company in 1884, and adding subsequently acquired property and deducting property retired. He rejected reproduction cost and concluded that the actual investment in the property was at least as much as such property cost before the World War (pages 63a-68a).

To the actual investment of the appellee in property owned by it, the Master added the cost of the investment in the existing Astoria property and one-half the cost of the new water-gas unit then being erected, it appearing undeniedly that this property was urgently needed to supply the requirements of the appellee's consumers (page 69a). To this he added the figure of working capital testified to by the *appellants'* expert (See Point XI, *post*) and reached the total above shown (pages 69a, 70a).

The Master found that the cost to reproduce the property was largely in excess of the amount found by him, and that the present value thereof, if based upon cost to reproduce less depreciation, "would be in excess of the said sum of $71,054,351.14" (Finding 68; Record, page 41a).

The Further Reductions Made by the District Judge

The District Judge before whom the testimony and exhibits were brought for hearing, on the

appellee company's motion for final decree, made a thorough and comprehensive review of the evidence in the case. He considered the whole case *de novo,* without adoption, in first instance of any of the findings of the Special Master; and undertook, in first instance, to see if the statute remained confiscatory if he should resolve every possible doubt in favor of the rate and against the company.

In other words, the District Judge deliberately set out to reach *an incontestible minimum, i. e.,* through resolving in favor of the appellants every question relative to the appellee's expenses about which there could be any shadow of doubt, by methods which he himself alluded to as "severe treatment" (Record, page 166a), and as "against any possibility of error " (Record, page 167a), and such as he stated would be "unfair" to the company "in the future in fixing a rate" (Record, page 168a) and in accordance with the Court's "plan of resolving all doubts against the plaintiff", concerning which he finally said (Record, page 183a):

> "In the figures I have used I think it clear that everything has been pared down unsparingly, and I take this occasion to say what I have already alluded to more than once already. It would be most unfair to accept any of these figures in fixing a rate. The attitude of a court is very different; it does not try to do justice between the company and the public, but only to see whether the actual rate can by any possibility still be a fair rate. In so doing it must take everything in favor of the rate. It would be the height of injustice, if, in view of that attitude, its conclusions so

> reached were treated as a fair basis for fixing a new rate. Furthermore, I have not hesitated to cut more ruthlessly in this case than if the result had been closer."

Obviously, the figures reached by the District Judge in the manner, and for the purpose, described by him as above quoted, could have no bearing upon any question as to what the rate should be. In fact, we think this method went too far, even for a testing of the constitutionality of the rate statute.

When it came to the determination and allowance of a rate to be charged pending final appeal to this Court the District Judge discarded his preliminary computation almost *in toto*. The facts shown in Case No. 288 (Record therein, pages 10 to 30) demonstrate that even the rate of $1.20 so fixed by him was not intended to do more than fall outside the margin of confiscation and did not do even that.

In the computations by which he took every possible doubt against the appellee, the Court arrived at a total cost of gas to the consumers for the year 1919 of 75.52 cents as against the Master's figures of 82.13 cents. From this he deducted miscellaneous operating revenue of 7.30 cents, reaching a net cost figure of 68.22 cents per thousand cubic feet sold. Deducting this from the gas-sales revenues of 79.91 cents per thousand cubic feet sold, gave as the maximum net profit, with all doubts taken against the company, no more than 11.69 cents, per thousand cubic feet of gas sold.

After a similarly ruthless cutting of the figures found by the Master as representing the property used and useful in the gas business, the Court

reached a "rate base" founded on cost, of $64,193,533 (page 181a), representing tangible property only.

With the addition of franchises and rights at the figure found by this Court (212 U. S. 19), the total became $71,974,533, which the Court found produced a return of not more than three per cent. upon the value of the property on the basis of costs prevailing in the year 1919, on tangibles alone (Record, page 183a). The Court said:

> "It is more than probable that *the plaintiff's whole investment is therefore properly valued at one hundred and fifteen millions at present prices, or twice what I have valued it at.* But I go along with the Master, since the result is in any case the same, in adopting the piece-meal method of valuation. That might be improper if a rate were to be fixed * * * (Record, page 181a).
>
> "I doubt very much indeed whether on a present value of the 'tangibles,' as gathered from estimates of the most competent persons available, which is really the only way in which it can be reached at all, the company can earn more than one and a half per cent., though such estimates are, of course, somewhat speculative" (page 183a).

For the convenience of this Court we insert at this point a table showing, in cents per thousand cubic feet, the operating costs and revenues proved by the company, and those allowed by the Master and by the Court, respectively, as of October, 1919, the latest period for which complete figures were proven. The details of the differences in these amounts will be discussed at length hereinafter:

COMPARISON OF BASIC FINDINGS AS TO COST OF GAS, IN CENTS PER M. CUBIC FEET SOLD.

	Present Cost Proved by Company	Master's Finding	Court's Irreducible Minimum
Cost of production	56.06	50.63	46.16
Repairs to tunnels		01.00	
Interest on others' property	08.92		
Cost to distribute	22.94	20.00	19.78
Renewals and replacements	03.50	03.00	03.73
Taxes	10.90	07.50	05.85
Total	$1.02.32	82.13	75.52
Misc. Oper. Rev.	07.28	06.95	07.30
Net cost	95.04	75.18	68.22
Gross Revenue (Gas Sales)	79.90	79.91	79.91
Net profit or loss	—15.14 (Loss)	04.73	11.69

COMPARISON OF FINDINGS AS TO VALUE OF PROPERTY USED IN SERVING THE APPELLEE'S CONSUMERS

	Master's Figures Based on Investment	Court's Irreducible Minimum
Land	$8,627,411.72	$7,029,035.00
Plants	13,119,754.76	10,297,470.81
Mains	11,027,266.24	11,027,266.24
Services	1,272,241.74	1,272,241.74
Meters and Miscellaneous	6,631,454.32	6,631,454.32
	$40,678,128.78	
Less Property Not Claimed	2,002,734.79	
	$38,675,393.99	$36,257,468.00
Office Buildings		1,541,450.00
Franchises and Rights (212 U. S. 19)	7,781,000.00	7,781,000.00
Present Astoria Plant	17,169,342.57	15,497,615.00
Astoria Tunnel	5,178,614.58	4,400,000.00
One Half of New Astoria Plant	2,250,000.00	
New Astoria Plant		4,500,000.00
Working Capital	3,800,000.00	2,000,000.00
	$74,854,351.14	$71,977,533.00

The Principal Exhibits Which Give Details of Contested Items

Before passing to matters of argument, it may perhaps be of convenience to this Court if we indicate the relatively small number of exhibits which disclosed in concise and graphic form the details of the appellee's gas operations and properties as taken from the vouchers, books and records in evidence, and in which exhibits are shown the details of the items around which the controversy raged upon the trial:

As to 1918 Operations

EXHIBIT 205: A detailed statement of the *revenues and expenses* of the appellee's gas business, prepared by Mr. Teele, one of the foremost accountants of the country; contains supporting schedules showing full details (Record, page 16,338).

EXHIBIT 364: A detailed statement of the *cost of production and distribution* of gas, showing the amounts paid for coal, oil, labor, repairs, taxes, etc.; the total quantities used; the unit quantities used per thousand cubic feet of gas made; the unit prices paid; the cost of each item, in terms of cents per thousand cubic feet of gas made, etc.; also prepared by Mr. Teele (Record, page 16,626).

EXHIBIT 485: *Cost of Production and Distribution:* A similar statement to Exhibit 364, but relating to the Astoria Light, Heat and Power Company, showing the details of the cost of coal-gas and water-gas, etc. (Record, page 17,414).

As to Operations During Eight Months of 1919:

EXHIBIT 355: *Revenues and Expenses:* Similar in form and details to Exhibit 205, but covering the eight months ended August 31, 1919 (Record, page 16,591).

EXHIBIT 365: *Cost of Production and Distribution;* similar in form and details to Exhibit 364, but covering the eight months' period (Record, page 16,630).

EXHIBIT 486: *Cost of Production and Distribution at Astoria;* similar in form and details to Exhibit 485, but covering the eight months' period (Record, page 17,420).

As to Operations During the Twelve Months Ended October 31, 1919:

EXHIBIT 382: *Revenues and Expenses;* similar in form and detail to Exhibit 364, but covering the year ended October 31, 1919 (Record, page 16,833).

EXHIBIT 387: *Cost of Production and Distribution;* similar in form and detail to Exhibit 364, but covering the year ended October 31, 1919 (Record, page 16,880).

As to Operations During 1906 to 1917, Inclusive:

EXHIBIT 366: Detailed statement by years, covering the period, prepared by Mr. Teele, whose working papers thereon were turned over to the defendants and large portions thereof put in evidence in connection with his cross-examination (Record, page 16,635; reprinted at page 276a, *post*).

Mr. Woods' Estimate of Average Operating Results and Costs on the basis of prices as of September, 1919:

EXHIBIT 353: *As to Water-Gas;* shows average quantities, etc. (Record, page 16,789; see also pages 4664, *et seq.;* 4683, *et seq.;* 4732, 4843, 4869, 5385, 5503, 5682).

EXHIBIT 354: *As to Coal-Gas;* shows average quantities, etc. (Record, page 16,790; see also pages 4685, 4702, 4927, 5509, 5601).

As to the Appellee's Real Estate Used in Its Gas Operations:

EXHIBIT 178: Maps showing location, dimensions, etc., of each parcel (Record, page 16,286).

As to the Property of the Appellee, Its Cost to the Appellee and Present Values:

EXHIBIT 496: *Summary of the Cost of Tangible Property owned by the Appellee and used in its Gas Business,* as shown by the books; being a summary of Schedules A to F, Exhibits 471-476, both inclusive (Record, page 17,444).

EXHIBIT 471: Schedule A, detailed statement of cost of appellee's real estate, including improvements other than manufacturing plants and holder stations, between November 11, 1884, and December 31, 1918 (Record, page 17,136).

EXHIBIT 472: Schedule B, detailed statement as to the cost of the appellee's

manufacturing plants and holder stations between November 11, 1884, and December 31, 1918 (Record, page 17,184).

EXHIBIT 473: Schedule C, detailed statement of the cost of appellee's mains and services between November 11, 1884, and December 31, 1918 (Record, page 17,275).

EXHIBIT 474: Schedule D, detailed statement of the cost of appellee's meters, cocks and connections, furniture and fixtures, horses, wagons and harness, tools and implements, scows, appliances rented, automobiles and accessories, from November 11, 1884, to December 31, 1918 (Record, page 17,288).

EXHIBIT 475: Schedule E, detailed statement of the cost of the real estate, including improvements thereon, other than manufacturing plants and holder stations, not claimed to be used in the appellee's gas business as of December 31, 1918, and hence deducted from the total cost of real estate shown in Schedule A (Record, page 17,303).

EXHIBIT 476: Schedule F, covering the manufacturing and holder stations not claimed to be used in the appellee's gas business as of December 31, 1918, and so deducted from the total cost shown in Schedule B (Record, page 17,309).

EXHIBIT 497: Summary of the cost of the property owned by the appellee and used in its gas business, together with work-

ing capital and the value of franchises and rights, but exclusive of "going value" and expenditures made for undistributable structural costs but not charged to fixed capital. Also a comparison between the actual earnings as shown by Exhibits 366, 205, and 355, and the amount which should have been earned upon the above-stated cost of the property at 6 per cent. from 1907 to 1916, and at 8 per cent. from January 1, 1917, to August 31, 1919 (Record, page 17,445; reprinted at page 276b hereof, *post*).

EXHIBIT 498: Summary showing comparison between the appellee's earnings as shown by Exhibits 366, 205 and 355, and what would have been earned at 6 per cent. per annum from 1907 to 1916, and at 8 per cent. for 1917-1918 and eight months of 1919, upon the minimum value of the property as proved upon the appellee's direct case, including working capital and franchises and rights (Record, page 17,447; reprinted on page 276a hereof, *post*).

All of the foregoing exhibits were made the subject of the most protracted and thorough cross-examination, both the books and the underlying vouchers, reports, gas production statistics, and other records from which the books were made up having been brought to Court and exhaustively used in such cross-examination. The cross-examination as to each such exhibit took place at the points shown in the index. Such cross-examination fully established the accuracy and soundness of these exhibits.

POINT I

UPON THE SOLE ISSUE COGNIZABLE HERE, THE DISTRICT COURT REACHED THE RESULT REQUIRED BY THE RECORD AND DID THIS IN A WAY WHICH LEAVES THE APPELLANTS NO FAIR GROUND FOR ASSIGNMENT OF ERROR.

The briefs of the appellants are pervaded with an impression that in some hasty, arbitrary fashion, the appellee was freed from the rate fixed by the wise regulatory policy of the State and turned loose to charge such rate as it saw fit, *in the face of rapidly declining costs of coal, oil, and other gas-making materials and rates of pay for labor.*

For this basic error, which reaches its elaborated form on page 384 of the brief of the appellant District Attorney, there is no support, in the record or outside it.

The sole issue was and is: Had the 80-cent rate, fixed in 1906, become confiscatory at the time of trial and decree? As to the *amount* of the appellee's useful property, the *value* of that property, and the cost of making and distributing gas, the District Judge made computations on the basis of *resolving against the company every doubt open to a rational mind.* When he found that the 80-cent rate would still remain confiscatory by wide margin, he suspended its further enforcement. In entering decree he did two things further:

> (1) He limited the company to a rate intended barely to escape the margin of confiscation, until such time as the State regulatory authority might fix a new rate; and
>
> (2) He provided that if, at any later time, conditions changed or costs fell so

as to make the 80-cent rate possibly adequate again, any of the appellants might apply to him for a vacating of the injunction.

The appellants argue eloquently (District Attorney's Brief, pages 384, 334, etc.) about "lower commodity prices which indicate decreased operating expenses," "increased efficiency of labor," "sharp price reductions in the cost of coal," "coal approaching pre-war level," "rapid and great" fall in the price of coal and oil. For all this, there is no foundation in the record, and none in fact, so far as the decline in the prices shown for gas-making materials in this record is concerned. The appellants do not undertake a single citation to the record to support their basic claim (*Appellant Swann's Brief*, page 384).

This case was tried in 1919 and its latest proofs of unit prices of coal, oil, etc., were as of late 1919, with a few quotations as of January 1920. The operating costs were as of 1918 and early 1919. As is well known the high prices for coal, oil, etc., and the "peak" wages for labor, had not arrived in either 1918 or 1919. Prices were still going upward, instead of downward, throughout this trial. The last word *in the record* from the appellants as to gas oil, then costing the appellee six cents per gallon, was the admission of the appellants' principal witness Little that he thought oil would soon go to at least ten cents (Record, page 11,296). Nevertheless, the defendants appeal to this Court on a basis of "rapid and great" decreases in the cost of coal, oil, and labor!

Some recessions in oil prices and coal prices did come, in 1921, from the prices obtaining late in 1920 and early in 1921; but these recessions have not carried the cost of gas-making materials back

to the 1919 unit prices. Costs are higher than in 1919, and the "falling prices" on which the appellants rely leave the cost of gas service much above the 1918 and 1919 figures found by the Court.

We do not make this as unsupported assertion or as of judicial notice, nor do we seek substantiation from records not before this Court. On pages 14, 15, 16 and 17 of the record before this Court to-day in Case No. 288 will be found the detailed facts as to the prices of coal, oil, other materials and labor, from early 1919 to the spring of 1921; and on pages 11, 12 and 13 of the same record will be found the detailed figures as to the costs of making and distributing gas in 1919, 1920, and 1921, showing, among other things, that even in the spring of 1921, the rate required for adequacy was not less than $1.50 per thousand cubic feet.

Nor did the District Court's decree "turn the company loose" to charge any rate it saw fit. Until an adjudication of Court restraining the further enforcement of the 80-cent limitation, no greater sum could be charged, no matter how urgently required by increased costs of labor and materials. The Legislature had seen fit to withhold from the regulatory Commission any power to grant increased rates called for by changed conditions, *until* a Court had adjudged the statutory maximum confiscatory (Pub. Serv. Comn. Law, Sec. 72; *Municipal Gas Co. vs. Public Service Comn.*, 224 N. Y. 156).

Upon the entry of the decree suspending the 80-cent limitation, the appellee became instantly subject to the revisory action of the State Commission, if the new rate promulgated was deemed unreasonable by that body, or was complained of as excessive by interested consumers.

The District Judge who heard this case below, in excess of caution lest the entry of an injunctive decree should open the way to an excessive charge before the State Commission was fully empowered to forestall such an attempt if made, went so far as to stipulate in his decree that until the Commission had reasonable opportunity to act, the appellee could not charge more than $1.20 per thousand cubic feet.

The New York Court of Appeals soon held, however, as the Appellate Division had already held (*Bronx Gas and El. Co. vs. Pub. Serv. Comm.*, 190 App. Div. 13), that upon the entry of an injunctive decree restraining the 80-cent statute, the State Commission became immediately vested with power to regulate and revise any rate promulgated by the company (*Morrell vs. Brooklyn Borough Gas Co.*, 231 N. Y. 398); and the Legislature, after the decision of this case in the District Court, amended Section 72 of the Public Service Commission Law so as to empower the Commission to authorize a gas company to charge more than the statutory maximum, without first obtaining any judicial decree (Laws of 1921, ch. 134; Section 49). This of course relieved such companies as had not begun suits or brought them to trial, from the necessity of proceeding initially in the Courts. As to companies which had gone to Court at a time when their power to promulgate, and the Commission's power to regulate, a rate in excess of eighty cents, was contingent upon the obtaining of a permanent or temporary injunction, such suits had, of course, to be prosecuted to completion.

Upon the filing of the decree of the District Court herein on August 5, 1920, the complainant company immediately filed with the Commission

and put in force the $1.20 rate indicated in that decree. On February 28, 1921, in view of still further increases in operating costs, Judge Hand refused to continue the $1.20 limitation he had prescribed the preceding August (Record, Case No. 288, page 59 *et seq.*) and the complainant company immediately filed with the Commission and put into effect a rate of $1.50 per thousand cubic feet, which was continued in force until, as of August 1, 1921, in view of the decreased cost of gas oil, the company voluntarily decreased this rate to $1.25, by filing with the Commission schedules which have ever since been in force and are a matter of public record, of which the Courts take cognizance.

Neither the present Commission, which took office on April 23, 1921, nor its predecessor, the defendant Public Service Commission for the First District, has at any time since August 5, 1920, adopted any order decreasing below $1.20, $1.50, or $1.25, respectively, the rate charged by the complainant company or any order looking to the restoration of the 80-cent rate (Record, Case No. 288; page 60).

The present decree was based upon detailed operating results in 1918 and the first eight months of 1919, with such facts as were available with respect to unit prices late in 1919 and for the future (Record, page 143a). That decree, like other decrees to similar effect, entered in the Federal and State Courts in New York City, gave to the Public Service Commission, the Attorney-General, and the District Attorney, broad rights of reapplication to the Court if costs and conditions should change to such an extent that it was believed the 80-cent rate had become remunerative. Complete results for 1919, 1920 and most of 1921 are now available (Record, Case No. 288,

pages 11 to 31), but no step has been taken by the Commission or by any of the appealing defendants to obtain a restoration of the 80-cent rate at the hands of the Court which had expressed its readiness to entertain such an application whenever a change from the 1918-1919 costs and conditions warranted it.

The restraining of the 80-cent rate is not a result unique or solitary as to this appellee. On the contrary, no company to which the 80-cent rate of 1906 applied is now charging less than $1.20 per thousand cubic feet of gas sold. One of these companies, the *Kings County Lighting Company*, before this Court contemporaneously with the appellee, is now charging $1.50 per thousand (Record, Case No. 288, page 9). When, on December 30, 1920, the present defendants asked Hough, C. J., to vacate this rate as inequitable, he declined to do so, saying, in a trenchant opinion (Record, Case No. 288; page 9):

> "I consider the word *inequitable* in the present connection to mean something so obviously wrong that it shocks the conscience of a fairly decent man who happens to be the Chancellor. I believe that at the present time and for a time in the future concerning which I cannot venture to even form an opinion, *the most favorably situated gas making concern within the limits of the City of New York cannot reasonably expect to make and distribute gas* and pay interest (at rates now ridiculously low) upon the money it has borrowed in the past, *for less than* $1.20 *per unit;* and this gas company I am sure is by no manner of means the most favorably situated within the City's limits.
>
> "I am also of the opinion that a twenty-five per cent. profit (which is the difference

> between $1.20 and $1.50) is as a profit on anything not so grossly inequitable as to shock the conscience of a decent man."

As to another company, the *Brooklyn Borough Gas Company*, which obtained an annullment of the 80-cent rate in the State Court in 1918, upon the report of Ex-Justice Charles E. Hughes as Referee (17 N. Y. State Dept. Repts., page 81), the regulatory Commission has successively, during 1918, 1919, 1920, and 1921, fixed rates of $1.10, $1.15, $1.40, $1.50, and $1.35, the $1.50 rate having been fixed by order of the present Commission in May of 1921.

The confiscatory consequences, since the middle of 1916, of the 80-cent law of 1906 as to gas companies operating in New York City is not a matter of the conclusions of one Special Master, one District Court Judge, or the Federal jurisdiction alone. The testimony in the case at bar was taken before Abraham S. Gilbert, Esq., as Special Master appointed by District Judge Mayer, and heard in the District Court before District Judge Learned Hand.

The *Kings County Lighting Company* case (No. 295 in this Court), was heard by Gordon Auchincloss, as Special Master, on appointment of Judge Knox, and was heard in the District Court by Circuit Judge Hough.

The case of the *Brooklyn Union Gas Company*, now in course of appeal to this Court, was heard before Ex-Judge James G. Graham, as Special Master, and heard in the District Court by District Judge Mayer.

The case of the *New York and Queens Gas Company* (No. 296 in this Court), argued here-

was heard before Abraham S. Gilbert, as Special Master, and in the District Court before District Judge Mayer.

In the State Court, the *Brooklyn Borough Gas Company* case was heard before Ex-Justice Charles E. Hughes, as Referee (17 N. Y. State Dept. Repts., page 81), and the *New York and Richmond Gas Company* case was heard before Ex-Justice Albert H. Sewell, for many years a Justice of the Appellate Division of the New York Supreme Court for the Third District (Record, Case No. 288, page 10).

In each of these cases, involving different companies and differing periods of time ranging from July of 1916 to the summer of 1921, the conclusion was inescapably reached that an 80-cent rate was, and would continue to be for some time to come, confiscatory, and unconstitutional; and on this basis decrees were entered restraining the statute and leaving the companies free to fix, and the Commission free to regulate, upward or downward, such rates as changed and changing conditions might require. As to the Brooklyn Borough Company, whose case was tried before Ex-Justice Hughes and involved costs as early as July of 1916, a 95-cent limitation was also found confiscatory; as to the New York & Richmond Gas Company, the rate annulled by the State Court was $1.00, as it was also in the New York and Queens Gas Company case, in the Federal Court.

As early as July of 1919, the State Court granted to the Bronx Gas and Electric Company a temporary injunction against further enforcement of *the $1.00 limitation* placed upon its rate for gas by the same statute which fixed a rate of eighty cents for the appellee (*Bronx Gas and*

Electric Co. vs. Pub. Serv. Comn., 108 Misc. 204; see also, Record, Case No. 288, page 10). Pursuant to that injunction, the company put in force a rate of $1.50 per thousand cubic feet, which it later tried to increase to $1.75. This latter rate the State authority refused to sanction, but left the $1.50 rate in effect (*City of New York vs. Bronx Gas and Electric Co.*, 113 Misc. 166).

On June 28, 1920, the Special Statutory Court, composed of Ward, C. J., and Grubb and Knox, D. JJ., convened under Section 266 of the Judicial Code of the United States, held the statute clearly confiscatory as *allowing the respondent gas company no return on any investment*, saying:

> "The affidavits before us give the experience of the plaintiff for the year 1919 independently and its experience during the same year in combination with its six affiliated companies and *satisfy us that the plaintiff, is not now and has not been able, during 1919, and will not be able in the future, so far as it can reasonably be foreseen, to manufacture and sell gas at the statutory rate of 80 cents with anything left for a return upon its investment.* We think the rate is confiscatory."

In entering a decree suspending the further enforcement of the 80-cent statute against the Kings County Lighting Company, after a full hearing before Gordon Auchincloss, Esq., as Special Master, the testimony was summarized by Howe, C. J., as follows (268 Fed. 143, 151):

> "The sum of the matter is this: it cost plaintiff and would have cost any other well-operated maker of gas, at least 84 cents to furnish 1,000 cubic feet of gas in the year 1919, and at least 96 cents to do the same thing in 1920.

> "The fundamental reason for this is that the oil best fitted for the gas maker is also richest in gasoline; therefore plaintiff, and other similarly situated manufacturers, are and have been competing with (especially) the automobile. This difficulty is not temporary, so far as human foresight goes. It may well be that gas makers will be driven back to coking coal; but that does not affect the rights of a concern lawfully organized to make oil gas and possessing no plant for coal gas."

On November 26, 1920, upon applications to grant to the New York Mutual Gas Light Company and eight other companies modifications of the injunction orders entered on June 28, 1920, so as to permit increases in the rates charged, the special statutory Court, composed of Ward and Hough, C. JJ., and Mayer, D. J., said (269 Fed. 452):

> "We have previously held in granting the orders above enumerated that all these plaintiffs (except the Brooklyn subsidiaries) are not now, and so far as can reasonably be foreseen, will not be able in the future to manufacture and sell gas at the statutory rate except at an actual loss.
>
> "We remain of that opinion, and after considering the evidence now submitted and taking notice of the result of the final hearing in the case of the Consolidated Gas Company, we are now of opinion that none of these nine plaintiffs can make or produce and distribute gas to private consumers for less than, or close to, one dollar per thousand cubic feet. Indeed, we are convinced that some of them must expend at present, in order to make and distribute gas, slightly more than one dollar per unit.

> "How much more than the bare cost of manufacture and distribution should be allowed pending final decree and the action of the rate-making authorities—is a question necessarily dependent upon the establishment of a rate base, *i. e.*, the ascertainment of the capital actually invested in making and distributing gas which costs the maker approximately one dollar per unit."

The learned Court then reached the conclusion that pending final decree, no more than ten cents per thousand should at that time be allowed above operating costs, and so fixed a rate of $1.10. On April 12, 1921, when operating costs had still further advanced, the same Court declined to include any return on investment in the rate *pendente lite*, but increased the rate to $1.20 to cover manufacturing and distributing costs as it found them.

In view of the emphatic findings and the action of this great number of Judges, State and Federal, and of the State Commission itself, based on conditions and costs as early as July of 1916 and as late as the summer of 1921, can be it said that the District Judge in the case at bar did something arbitrary and at variance with common experience, or that the costs found by him were temporary and fleeting, or that "costs soon fell enormously," or that the selection of a longer period of test would have achieved a different result. Should this case be now remanded, for the taking of testimony before the same or a different Master, covering any or all of the years above enumerated, could the result possibly be the vindication of a rate so low as 80 cents?

Admission of the Appellants' Principal Witness

The right of this appellee to the present judgment enjoining the further enforcement of the 80-cent rate would be confirmed beyond fair controversy—if any confirmation were necessary—by the admission of Mr. A. S. B. Little at page 11,291 of the printed record. Mr. Little was the only witness called to the stand by the appellants who possessed any expert or first-hand knowledge of gas manufacture and distribution or of the costs necessarily incurred therein. Confronted squarely with the crucial question of fact in this case, he admitted the essence of the appellee's claim as follows (Record, page 11,291):

> "Q. Is it your judgment that this company, with its plants and with the present costs of labor and material, can make gas and sell it at 80 cents, and pay those costs, and earn a return on what you would consider as necessary investment?
>
> "Mr. O'Brien: Same objection.
>
> "The Master: Same ruling.
>
> "Mr. O'Brien: Exception.
>
> "A. No."

The fact that later, perhaps roused to recalcitrance by the rage of the representative of the appellant Swann, Mr. Little asked leave to qualify his answer by saying that this was true, "assuming, that is, the expenses beyond the holder which I have taken, which are as near as I can show them the fair costs based upon Mr. Teele's set-up of the books", does not impair the force of the admission of the appellants' only qualified witness on this point. Mr. Little's own "revision" of the company's expenses "beyond the holder", to conform them to what he deemed 'fair costs", still gave no basis for reaching a

conclusion contrary to that above quoted from his testimony. Even when Mr. Little pared down these costs per thousand cubic feet by assuming the sale of 22 billion cubic feet of gas in 1920 with no considerable increase in "expenses beyond the holder", he could get no figures for the cost of manufacture and distribution netting a fair return on more than a third of the investment which his own calculations showed would be necessary for the manufacture and distribution of 22, or even 18, billion cubic feet of gas. Later he admitted that this assumption of 22 billion cubic feet of sales in 1920, as compared with the 18,029,255,000 sold in 1918 (Record, page 16,628), was greatly exaggerated (Record, pages, 12,188-90). *The significant thing is that the appellants called no witness who testified, or undertook to prove, that gas could be made and distributed for 80 cents per thousand cubic feet, with any substantial sum earned towards payment of return on investment.*

The Issue of the Present Appeal

In a matter of so great public consequence, to investors and to rate-payers, the issue upon the present appeal may be stated in terms of what is involved:

> If the decree below is affirmed, the appellee and its rates will continue subject to the regulatory power of the State Commission, whose decisions are in turn reviewable by the State Courts and by this Court on writ of error; and the appellee company will be confirmed in its retention

of the excess over 80 cents per thousand cubic feet, which the State Commission has permitted it to collect since the entry of the decree herein under review.

If the decree below should be reversed for any error on the trial, the appellee and the defendant public authorities would be put to the great expense of re-litigating the issues, (for example, over a broader period or with additional testimony received), with no fair possibility of a decision that the 80-cent rate was or is non-confiscatory. If, however, by any possibility the decree below should be reversed and the complaint dismissed in this Court, the appellee would lose all that it has collected and used in excess of 80 cents per thousand cubic feet since August 5, 1920, although it has at no time charged or collected more than a reasonable rate, and although it must be presumed that the Commission has fulfilled its duty of preventing the company from charging more than a reasonable rate. The Company would be remanded instantly to an 80-cent rate, although the State regulatory body, possessed of plenary powers, has not reduced the company's present rate of $1.25, and although the decree appealed from provides that the appellant public authorities may ask the District Court to restore the 80-cent rate when and as conditions warrant it, but no such application has been made.

POINT II

THE COMPUTATION OF THE COST OF MANUFACTURING AND DISTRIBUTING GAS, BY WHICH THE DISTRICT COURT DEMONSTRATED THE 80-CENT RATE CONFISCATORY BY A WIDE MARGIN, PROCEEDED ON A BASIS OF SUCH RIGOROUS ELIMINATIONS AND REDUCTIONS AS TO LEAVE THE APPELLANTS (DEFENDANTS BELOW) WITH NO GROUNDS FOR ASSIGNMENT OF MATERIAL ERRORS.

Certain fallacies pervade the argument of the appellants concerning the cost to the complainant of the production and distribution of gas:

(1) That the proof as to the details which enter into the cost of the manufacture and distribution of gas is insufficient (Brief of Appellant Swann, Point V, page 232; Point VI, page 262); and

(2) That the Court below allowed the complainants' rather than the defendants' claims before the Master and the Court in respect to the amounts to be taken in computing operating costs for the purpose of this suit.

(3) That the Court below found that the complainant *actually* earned a return from its gas business during the year 1918 of $3,626,000 and during the year 1919 of $2,338,000 (Brief of Appellant Newton, Point III, page 73).

(1) The first fallacy, as to the lack of evidence to prove the *actual* operating costs of the complainant, is the reflex of the "purely negative attitude" taken by the defendants at the trial

(Record, page 151a). It leads to the absurdity that the complainant has no plant, no property, and produces and sells no gas. For the purpose of testing the sufficiency of the eighty-cent rate from any conceivable angle, both the Special Master and the Court below adopted as a standard the costs of manufacture at the plant of the Astoria Light, Heat and Power Company, which produced little more than half of the quantity of gas distributed by the complainant to its consumers, the Court below going to the extent of applying the manufacturing costs which were attainable only in one part of the manufacturing plant of the Astoria Light, Heat and Power Company and not in the entire plant (Record, page 159a). The evidence to sustain such a basis of calculating the manufacturing cost by which the rate in question was tested was, in the first instance, introduced *by the defendants*, and not by the complainants. The Astoria Company's books, records, vouchers, operating statistics and other data; Sangster's schedules of elaborate analyses of the operating costs and investment of the Astoria Company, and Frank's schedules of details of operation of the plants of that company were all introduced in evidence by the *defendants*. Little's extensive studies of the Astoria plant and calculations of possible operating results redound to the credit only of the *defendants*.

The Special Master did not base his finding upon the *actual* cost to the complainant of gas as of October, 1919, which controlled the cost thereafter, and likewise preferred not to base his findings upon the actual cost of distribution as of the same time (Record, pages 53a-57a). By adopting the Astoria manufacturing costs, the Master

pared liberally the actual operating costs of the complainant (Record, page 57a), and the Court below further "unsparingly" pared these figures (Record, pages 162a-182a).

(2) The allowances made by the Court below for the operating expenses of the complainant—that is, for the cost of production and the cost of distribution of the gas furnished to the complainant's consumers—furnish no basis whatever for any assignment of error by the defendants. It will be borne in mind that the complainant produced only about half of the quantity of gas required by it for the service of its consumers; that it owned and operated two water-gas plants at 21st Street and 99th Street, in the Borough of Manhattan, and owned and operated for peak demand and emergency uses two coal-gas plants at 14th Street and 42nd Street in the Borough of Manhattan; that it took the entire output of the gas produced at the Astoria plant by the Astoria Light, Heat and Power Company (of which the complainant had stock ownership and which was treated as a "department" of the complainant), operating at the time of the trial coal-gas plants A and B and water-gas plant C; and that it also purchased gas, under the exchange of gas system, from its affiliated gas companies in Manhattan and The Bronx, of which the New Amsterdam Gas Company, the New York Mutual Gas Light Company and the Standard Gas Light Company operated water-gas plants, and the Central Union Gas Company operated a combined coal and water-gas plant. Obviously, uniformity in operating results could not be attained with different personnel at the various plants and under conditions varying throughout the year.

The Court below passed up the proof of the complainants' actual production costs, and, even more than the Master did, based its findings squarely on the defendants' evidence. As to production costs, the Master limited the amount allowed to the cost of manufacture at water-gas plant C at Astoria and coal-gas plants A and B at Astoria, as shown by the books of account and records of the Astoria Light, Heat & Power Company introduced in evidence by the *defendants*, from which elaborate tables were prepared by defendants' accountants, Sangster and Frank. (Record, page 52a). As to distribution and other general expenses, the Master allowed an amount representing a reduction in the average costs for the years 1918 and 1919. In other words, the Master swung far away from the *actual* operating costs and adopted the lowest operating costs which he figured *could* have been attained through the operation of plants, not of a reasonable and usual type, but of the highest modernness and efficiency.

The Court below, however, proceeded much further than the Master in swinging away from the actual operating costs of the complainant. The Court took "all doubts against the plaintiff" (Record, page 163a); it gave "severe treatment" to many of the items (Record, page 166a); it took figures "against any possibility of error" (Record, page 167a); it frankly avowed that in the figures which the Court used, it was "clear that everything had been pared down unsparingly", and that it did not "hesitate to cut more ruthlessly in this case than if the result had been closer" and that "it would be the height of injustice, if, in view of that attitude, its conclusions so reached were treated as a fair basis for fixing a new rate" (Record, page 183a).

The Court below took, for production costs, the identical figures in the report prepared by the defendants' accountant Sangster showing the manufacturing cost of water-gas at plant C at Astoria, which gave the lowest cost of all the water-gas plants in the system (except that the Court *reduced* Sangster's figure for generator fuel by .9¢ in order to conform it to a lower cost attained at one of the Manhattan plants), and the identical figures shown in that report for the manufacturing cost of coal gas at Astoria, which had been attained *only* at coal-gas plant A thus excluding from consideration the higher cost at coal-gas plant B which the Master averaged with coal-gas plant A. (Record, pages 159a-162a).

For distribution and other general expenses, the Court adopted the theory advanced in the schedule of "*Adjusted* Cost of Gas distributed in the Year 1918," introduced in evidence by the defendants' witness Weber (Record, page 19,122) and reduced General Officers' Salaries, General Office Supplies and Expenses, and Legal Expenses by one-third, credited against the actual operating costs dividends received by complainant upon its investment in an insurance fund, reduced expenditures for repairs of appliances and meters by 10 per cent., upon the assumption that they included such a profit (although it was positively testified that the figures presented to the Court did not include such a profit), threw out the expenses for defensive emergency service, allowed only a fraction of the expenses in connection with the conduct of the suit, eliminated every element of return upon investment in other's property used by the complainant and made other reductions in the actual expenditures. (Record, pages 162a-167a).

The Court below went still further. It allowed only 4.1 per cent. for unaccounted for gas, (Record, pages 152a-153a) thereby decreasing the cost of manufacture per unit *sold* as distinguished from per unit *made*. It applied to the operating results per thousand cubic feet of gas sold a "suppositious spread of twenty billion," which was not realized in the year 1918 or in the year 1919, and adduced a profit in dollars and rate of return upon investment greatly in excess of that which could have been calculated if it had taken the actual sales of 1918 and 1919.

The Court below, in its calculation of possible operating results went much further than ever the defendants contended for at the trial. *Weber* in his "Adjusted Cost of Gas Distributed in the Year 1918" (Exhibit AA, 465, Record, pages 19,122-19,124) after substantially reducing the production cost and practically decimating the distribution and other general costs, *arrived at a possible profit from the gas business in 1918 of 16.35 cents* per thousand cubic feet, whereas *the Court arrived at available profits of 18.13 cents per thousand cubic feet* (Record, page 182a).

Little, the defendants' witness, in his report of "ideal" production expenses, which assumed impossible operating conditions, calculated upon the basis of the operation of the Astoria plant and the 21st Street and 99th Street plants, that there could be made available for the year 1919 a *profit from operations of 9.35135 cents per thousand*, (without making any allowance in the operating expenses for "depreciation and return on the 21st Street and 99th Street plants and of the balance of the used and useful property of the Consolidated Gas Company" but including a re-

turn upon a portion of the investment at Astoria), (Record, page 11,257) and, upon the basis of making all gas at the Astoria plant, for the year 1919, a *profit from operations of 9.45342 cents per thousand* (without any allowance in the operating expenses for "depreciation and return on the portion of plant to be added to the production equipment at Astoria in order to increase the capacity of the water-gas plant there * * * also return on the used and useful property of the Consolidated Gas Company in Manhattan and the Bronx") (Record, page 11257, 11,259). On the other hand *the Court* below calculated as available profits for 1919, *11.69 cents, after allowing 3.73 cents for renewals and replacements* (Record, pages 171a-182a), which, of course, would have to be deducted from Little's figures in order to make Little's results and the Court's results comparable. Nowhere did the Master or the Court make any allowance for necessary surplus, which the law requires the Public Service Commission should make in fixing rates. (Pub. Serv. Commn. Law, sec. 72).

The Court below, in other words, accepted substantially the contentions made by the defendants' witnesses as to the allowance to be made for operating costs.

(3) Thus, the Special Master and the Court below each strove to calculate a possible *minimum* cost of production and distribution of gas *per thousand cubic feet sold*, but gave not the slightest basis for the suggestion that such a possible minimum cost was the actual cost. The sizable amounts of return of $3,626,000 for the year 1918, and $2,338,000 for the year 1919, reiterated in the briefs of the appellants (*e. g.*, appellant Newton's

brief, point III, page 73) are nothing but fanciful examples in arithmetic.

There is no vestige of any suggestion in the record or in the opinion of the Court that any such return was *actually* earned by the complainant in those years. The Special Master found that during the year 1918 the complainant sold to its consumers 18,029,245,000 cubic feet of gas, and during the first eight months of 1919 it sold to its consumers 12,253,567,100 cubic feet of gas, and that the total sales of the complainant company in that year were about 18,500,000,000 cubic feet, and that during the year 1920 they would amount to at least 19,000,000,000 cubic feet (Finding 46, Record, page 35a). For the year 1919 the figure of sales of 18,500,000,000 cubic feet of gas was exceeded only by a slight fraction. The Court below, methodically leaning in the defendants' direction to the utmost limit, applied to the *supposititious* cost of production and distribution for the years 1918 and 1919 of 69.08 cents and 75.52 cents, respectively, an equally "supposititious twenty billion spread" of gas sales, and then calculated, upon such supposititious cost and sales in 1918 and 1919 what the income "would be" (Record, page 182a), saying that, upon even such a basis, the net would be $3,263,400 for the year 1918 and $2,104,200 for the year 1919, yielding a rate of return upon the minimum *cost* of the complainant's property of 4.53% in 1918 and 2.92% in 1919—much inadequate to meet the constitutional guarantees.

Of course, the supposititious profit in 1918 of 18.13 cents per thousand and in 1919 of 11.69 cents per thousand, were never realized by the complainant, and there was no possible justification for the

application of the "suppositious twenty billion spread" to the 1918 and 1919 sales except to show what would have been "the possible earnings of the plaintiff" under any conceivable rationale. Even if the supposititious profit for 1918 and 1919 could have been earned, the application of the actual amount of sales of 18,000,000,000 cubic feet of gas for 1918 and of 18,500,000,000 cubic feet for 1919, would have indicated that the possible return upon the investment would have been a much smaller percentage than was indicated by the assumption of the supposititious spread of twenty billion.

Comparative Table of Actual Costs and Astoria Costs Allowed by the Master and the Court

The following table states, in comparative form, the amounts shown by the complainant as the actual revenues and expenses from its gas business, and the amounts allowed by the Special Master and by the Court below:

Comparative Statement of the Amounts Proved
Master and

REVENUES AND EXPENSES FROM THE GAS

Proved by the Appellee Ga

	1918 Actual Ex. 364	Jan.-Aug. 1919 Actual Ex. 365
Cost of Production.....	$.5842 (a)	$.6574 (a
Cost of Distribution.....	.1978	.2110
Renewals & Replacements	.0334	.0300
Taxes	.0675	.0625
Total	.8829	.9609
Misc. Oper. Revenue.....	.0728	.0662
Net Expenses	.8101	.8947
Gas Sales	.7990	.7991
Net Profit or Loss.....	*.0111	*.0956

*Loss.

(a) Includes cost of Taxes, Renewals, etc., ar
to manufacturing gas for the use of the
(b) Return on investment, etc., paid to other
tribution of gas for the Consolidated G
(c) Includes Taxes upon property of the Consoli
used in making and distributing gas for
(d) Maintenance of Astoria Tunnel.
(e) Gas Storage.

ved by the Company and the Amounts Allowed by the Special
nd by the District Court

AS BUSINESS PER THOUSAND CUBIC FEET OF GAS SOLD

Gas Company on the Trial.

g.	As of Oct., 1919 Ex. 501	As of March 1920	Allowed by the Master 1919	Allowed by the Court 1918	Allowed by the Court 1919
4	(a) $.5203	$.5606	$.5063	$.3964	$.4519
	$.0892 (b)	$.0892 (b)			
			.0100 (d)	.0097 (e)	.0097 (e)
0	.2330	.2294	.2000	.1846	.1978
0	.0350	.0350	.0300	.0373	.0373
5	.1090 (c)	.1090 (c)	.0750	.0628	.0585
9	.9865	1.0232	.8213	.6908	.7552
2	.0728	.0728	.0695	.0730	.0730
7	.9137	.9504	.7518	.6178	.6822
1	.7990	.7990	.7991	.7991	.7991
3	*.1147	*.1514	.0473	.1813	.1169

, and Return on Investment on property owned by others devoted
he Consolidated Gas Company.
her companies on investment in property used in p.oduction and dis-
. Gas Company.
solidated Gas Company $.0675, and upon property of other Companies
or Consolidated Gas Company, $.0415.

TIP IN

Various exhibits setting forth in different detail or grouping of details the operating costs and revenues of the complainant's gas business were introduced in evidence by the defendants.

When the complainant finished the presentation of its evidence in chief, the fiscal results of its operations for the entire calendar year 1919 were not available. Later, the complainant furnished to the defendants' counsel schedules of revenues and expenses for the entire calendar year 1919, and offered the schedules in evidence. Upon the objection of the defendants' counsel, the Special Master excluded the 1919 schedules as not proper rebuttal (Record, page 14,257) schedules showing the complete 1919 results. Had more favorable than the results shown for the prior periods, the defendants presumably would not have interposed any objection. However, considerable testimony as to the principal items of cost, as of the latter part of 1919 and the early part of 1920, is in the record, and it was not at all difficult for Judge Hand, in fixing the $1.20 rate as a condition to the continuance of the final injunction, to collate the figures in the record which he used as a basis.*

Methods of Ascertaining Operating Costs and a Fair Return

The Legislative Act of 1906 under consideration applies to all gas sold by the Consolidated Gas Company to its consumers, whether manufactured by it or obtained from other sources. When the Act was passed, some gas companies in the City of New York manufactured their own gas supply and others merely engaged as distributors.

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*See table, page 144, post, and Appendix "A," pages 490-92, post.

The rate was prescribed by the above statute for gas *furnished*, irrespective of the source of supply. The statute did not contemplate the abandonment by any gas company of its mode of business in order to find a possible means of encompassing its costs and profit within the rate limitation, or of its plant in order at once to effect an economy in operating cost that would be more than absorbed by the cost of amortizing the discarded property. It was undoubtedly the legislative intent to prescribe a rate in view of all the prevalent conditions of the industry. There is, therefore, no reason for setting up a "standard" for each operator or purveyor to attain, at the penalty of confiscating its property.

Two methods have been exemplified in this case for ascertaining operating costs. One deals with actualities, the other is more or less hypothetical. In presenting its case the appellee presented the facts as shown by its books of account. This conformed to the method adopted by the Court in the prior case. Mr. Teele, the accountant employed by the complainant, tabulated the cost of manufacturing the quantity of gas made by the complainant; the price paid by it for the quantity of gas purchased from other companies, including charges paid for the use of properties of other companies used in the manufacture and transmission of the gas sold to the consumers of the appellee; the cost of distributing the quantity of gas sold by the appellee, including taxes on its own property and gas operations, and renewals and replacements of its own manufacturing plant, which is used to make a little less than half of the gas sold, and on the distributing system used to distribute the

entire quantity of gas sold. Such a tabulation furnishes the first factor in computing the amount of the fair return upon the investment of the complainant in its own manufacturing plants and distributing system.

While, in such a schedule, the item of renewals and replacements would not show in the charges to this account the amounts provided for *renewals and replacements* in the manufacturing plants owned by *other* companies but used in the making of gas sold to the complainant, such amounts would be included in the sum paid by the complainant for others' gas. Likewise, such a tabulation does not include *as taxes* the proportion of the taxes on the property of other companies attributable to the manufacture and transmission of gas sold by the Consolidated Gas Company. The return on the investment of other companies in the portions of their plants used for the benefit of the complainant would appear in the prices charged by them for gas.

If the price paid by the Consolidated Gas Company for gas received from other companies (excluding for purposes of comparison any payment for use of plant or jointly used facilities or the tax thereon) does not appear inherently unreasonable, as compared with the cost of producing gas at the plant owned by the complainant, the Court is justified in accepting the price so paid by the complainant as a part of the cost to it of the gas sold by it.

The method adopted by the Master and followed by the lower Court was to ascertain the present fair and reasonable cost of manufacturing gas in this territory per thousand cubic feet, with

a plant of the type used by the complainant, and the *quantum* of property and investment reasonable and necessary to make and distribute the quantity of gas sold by the complainant per annum. To such cost of manufacture, there should be added the taxes upon the *aggregate* property, renewals and replacements upon the *aggregate* property, the expenses of distributing the total quantity of gas sold and other general expenses, and a fair return upon the *aggregate* investment required for making and distributing such quantity of gas.

Either method would have resulted in a showing of a higher cost of making and distributing gas than was taken by the Special Master or by the Court as a standard for testing the sufficiency of the eighty-cent rate. The method adopted by the Master and the lower Court led to an actual or approximately actual operating cost, assuming appellee to have owned, directly, all of the plant required for the production and transmission of all of the gas which it sold. By the inclusion, however, in appellee's expenses of the actual amount paid for gas purchased, the operating expenses as found according to the method adopted by the Master and the Court would be substantially increased, and instead of net earnings there would be (as was the fact) an operating deficit (See table pages 46-48 *post*) and the investment as found by the Master and the Court would be diminished by the exclusion therefrom of the plant of other companies used in producing the gas purchased by the appellee. Both the Special Master and the Court below, *upon the defendants' own theory*, took the lowest possible cost of making gas in one manufacturing department and a portion of the distributing and other general expenses, in order to test the statutory rate from any possible basis.

The Appellee's Actual 1918 and 1919 Operations Adjusted to the District Court's Allowances, and Taken On the Basis Followed by This Court in Prior Suit (212 U. S. 19)

In order that this Court may have before it the actual results of appellee's operations for the calendar year 1918, for the period of eight months ended August 31, 1919, and for the year ended October 31, 1919, with the figures for the first two periods adjusted to the figures found by the District Court in its final decree, the following tables are inserted at this point. *They represent the figures which the District Court in the present suit would have found had it followed the method pursued by Judge Hough in the prior suit* (157 Fed. 859) *and adopted by this Court as a basis for its determination* (212 U. S. 19; see complete discussion under Point IX, page 272 *et seq., post).*

We think that these figures and this basis of computation may commend themselves to this Court's consideration by reason of their conformance to the basis followed by this Court in 1909 and also by reason of their representing actualities (except in so far as the District Court reduced the actual figures), instead of being based upon the hypothetical assumption that all of the plant and equipment required for the production and transmission of the gas sold by the appellee was owned by the appellee.

The tables follow:

TABLE NO. 1

Actual Operating Results for the Year 1918 (Exhibit No. 364)

Gas Sold (cubic feet)	18,029,245,000	Per M cu. ft. sold
Gross Earnings from Gas Sales	$14,406,222.47	79.90¢
Miscellaneous Operating Revenue	1,312,492.82	07.28
Total	$15,718,715.29	87.18
Production	10,531,923.87	58.42
Distribution	3,567,145.80	19.78
Removals and Replacements	601,450.69	3.34
Taxes	1,216,828.06	6.75
Total	15,917,348.42	88.29
Deficit	$ 198,633.13	1.11

The Above Adjusted in Accordance With the Lowest Figures Found by the District Court In Its Final Decree:

Gross Earnings	$14,406,222.47	79.91¢
Miscellaneous Operating Revenue	1,316,134.88	7.30
Total	$15,722,357.35	87.21
Production (inc. Gas Storage) (a)	8,628,796.66	47.86
Distribution (inc. Mtce. of Conduits)	3,328,198.62	18.46
Renewals and Replacements	672,490.84	3.73
Taxes	1,132,236.59	6.28
Total	13,761,722.71	76.33
Net Earnings	$1,960,634.64	10.88

(a) (40.61¢ per M + 7.25¢ per M cubic feet)

TABLE NO. 2

Actual Operating Results for the Eight Months Ended August 31, 1919 (Exhibit No. 365)

Gas Sales (cubic feet)	12,253,567,100	Per M cu. ft. sold
Gross Earnings from Gas Sales	$9,791,915.02	79.91¢
Miscellaneous Operating Revenus...	812,009.72	6.62
Total	$10,603,924.74	85.53
Production	8,056,034.54	65.74
Distribution	2,585,851.96	21.10
Renewals and Replacements	367,607.03	3.00
Taxes	766,359.54	6.25
Total	11,775,853.07	96.09
Deficit	$1,171,928.33	10.56

The Above Adjusted in Accordance With the Lowest Figures Found by the District Court In Its Final Decree:

Gross Earnings	$9,791,915.02	79.91¢
Miscellaneous Operating Revenue...	894,510.40	7.30
Total	10,686,425.42	87.21
Production (inc. Gas Storage) (a)...	6,718,630.84	54.83
Distribution (inc. Mtce. of Conduits)	2,423,755.57	19.78
Renewals and Replacements	457,058.05	3.73
Taxes	716,833.68	5.85
Total	10,316,278.14	84.19
Net Earnings	$370,147.28	3.02

a (46.16¢ + 8.67¢ per M cubic feet)

TABLE NO. 3

Actual Results of Operations for Year Ended October 31, 1919
(Exhibit No. 387)

		Per M cu. ft. sold
Gas Sold (cubic feet)	18,321,589,800	
Gross earnings from gas sales	$14,641,066.38	79.91
Miscellaneous Operating Revenue	1,341,611.76	07.32
Total	15,982,678.14	87.23
Production	12,181,663.81	66.49
Distribution	4,047,088.98	22.09
Renewals and Replacements	549,647.71	03.00
Taxes	1,173,750.30	06.40
Total	$17,952,150.80	97.98
Deficit	$1,969,472.66	10.75

The corresponding figures upon which the District Court based the $1.20 rate to which appellee was restricted under the final decree, adjusted so as to include in the cost of gas the return computed by the Court at 8 per cent. on others' investment ($26,847,957.15) and state separately the return on appellee's own investment ($50,152,442.85), are as follows (Opinion and Decree, page 71):

Production	56.00¢	
(a)	11.31	
		67.31¢
Distribution		23.00
Renewals and Replacements		3.50
Taxes		9.00
Total		$1.02.81
Credit Miscel. Oper. Revenue		7.30
		95.51
Balance		
Required for Return of 8%	32.43	
(a)	11.31	
		21.12
Federal Income Tax		3.37
Rate Required		$1.20.00

(a) return on others investment.

Showing the actual cost to appellee on this basis to have been $1.0281 per thousand cubic feet sold *(exclusive of any return whatever upon any of the appellee's own investment)*, as against the statutory rate of eighty cents per thousand.

Concerning the Operating Costs Found by the Special Master

The cost of manufacture *allowed* by the Special Master was several cents *lower* per thousand cubic feet of gas sold than the complainant's *actual* cost of manufacture as *found* by him even during the early months of 1919 taken by him as a basis, because, as appears from the opinion of the Special Master, the operating figures used and found by him were taken—not from the results at the plants owned by the Consolidated Gas Company and covered by the books and records of the Consolidated Gas Company, but rather from the results of operation in the Astoria Plant for the early months of 1919. It was the *defendants*, and not the complainant, who placed in evidence the Astoria books of account, manufacturing records and supporting data. The Astoria records and the Astoria results were not before the Court during the complainant's case. The defendants desired to offer the Astoria operating results in evidence, and as a basis therefor, offered the Astoria books of account, manufacturing records and supporting data in evidence, it being *then* the contention *of the defendants* that the Master ought to make his findings on the basis of the costs in the Astoria Plant, "that plant being the most efficient manufacturing station, with modern labor saving devices," rather than the results in the Consolidated plants alone or the results in all of the plants making the gas sold to the complainant.

In following the course above indicated, the Special Master took the course least favorable to the complainant and reached a figure *below the actual operating costs in the Consolidated plants*

in the Borough of Manhattan or in all the plants making the gas sold by the Consolidated Gas Company. The complainant believes that the Special Master ought to have taken the figure produced by the operating results in *all plants.* But the defendants would seem to have little right or reason to complain because the Special Master adopted their theory of the case and derived his basic figures *from the defendants' exhibits* rather than from the exhibits or testimony proffered by the complainant company.

The Master, in his opinion, summarized his findings as to the cost of manufacture of gas (Record, pages 52a-53a):

Master's Findings

	Cts. per M cu. ft.
Actual cost of water-gas at 21st and 99th Street stations—	
1918	42.66
Eight months 1919	48.43
Actual cost of water-gas at Astoria—	
1918	40.54
Eight months 1919	45.75
Woods' cost of water-gas, Oct., 1919	47.07
Actual cost of coal-gas at Astoria—	
Eight months 1919	47.31
Actual cost of mixed coal and water gas at Astoria—eight months 1919	46.40
Cost of mixed coal and water gas at Astoria, in ratio of 22% and 78%—	
as of Sept., 1919	46.09
Master's finding of cost of gas (also average for eight months 1919), plus 1 cent for storage	47.09
Appellee's substantiated claim of "present" cost of gas (excluding any return on other's or appellees' investment)	56.06

Judge Hand, in reviewing the Master's findings, went even further than the Master in putting aside the *actual* manufacturing costs and adopting as a *test or standard* the possible minimum cost for which gas *might* be produced, for he confined his calculation of coal-gas manufacture to the costs at House A at the Astoria plant, which, as a unit, apparently showed a lower cost for coal-gas than House B. As well might the Court have selected a single gas-making unit out of a battery of a half dozen, and made the unit cost at that single machine the unit cost for all the machines. The art of gas manufacture has not yet become so exact as to admit of no variation in mechanical and personal performances. But, even by such a process of calculation, Judge Hand found the conclusion of confiscation inescapable.

In his opinion, Judge Hand said (Record, pages 159a-160a, 162a):

> "The Master accepted for a standard the cost of manufacture, taken from the books of the Astoria Company, for the first eight months of 1919. This is a plant over ten years old, but it may, I think, be safely taken as a proper standard. Certainly Mr. Little [the defendants' engineering expert] thought that for coal gas, House A., and for water gas, House C., were suitable. He thought House B. not economical because of the absence of certain labor-saving devices, though the item for labor was greater for House A. in his estimates, but of House A. he made no complaint.
> "I shall therefore take the analysis of the costs at House A. for coal-gas and House C. for water-gas as taken from the Astoria books for the full year 1918 and for the first eight months of 1919. Sangster, the

defendants' accountant, was given full opportunity to examine these and to check their accuracy and his tables I use. His results must be accepted as true and valid, except in so far as any of the practise in that house can successfully be criticized. I know of no such possible criticism unless it be the amounts of materials used and the extent to which the houses were driven. The second point comes up for consideration later and upon the first I shall say but little. * * *

"Taking, then, House A. as such a standard and accepting Sangster's analysis of its actual expenses, we may start with a total cost of production at the plant meter for coal-gas of $.4155. Sangster's figure for water-gas at House C. is $.44746, which I take at $.43846. * * *

"If I take Sangster's figures for 1918 I find the cost of coal gas at House A. was $.31537. The cost of water-gas at House C., $.39843. Taking the proportions at twenty-two per cent. to seventy-eight per cent., and half and half, and allowing 4.1% for loss, I get $.3964, or $.3723 respectively for these figures."

Proof of Required Quantities of Materials and Labor

The assertion in the appellants' briefs that the record is barren of proof of the quantities of materials and labor employed in the production and distribution of gas is merely due to stubborn adherence to the "purely negative attitude" of the defendants.

The Master, in his opinion, said (Record, pages 51a-52a):

"The methods of making coal and water-gas, the kind of material necessary, the

character of labor required, and the character of residuals produced were conceded. Quantities and prices, however, were disputed

"Bearing on this question, I had the testimony of Mr. Woods, an expert engineer with many years' practical experience [complainant's Engineer of Gas Manufacture], and also of Mr. Little [defendants' engineering expert]. I also had before me the operating ledgers and other books of account of the complainant company and of the Astoria Company for the year 1918, and for the first eight or ten months of the year 1919.

* * * * *

"Taken in conjunction with the testimony of Mr. Woods and of Mr. Little, as to the character and quantities of materials and labor necessarily used in the manufacture of gas, I think that the record shows beyond question just what, in the actual operation of gas plants, is required for the making of gas and the cost thereof."

The quantities of materials and of labor, underlying the Special Master's findings and the findings of the Court below, find confirmation, not only in the operating results of the complainant and other gas companies and in the opinion and experience of the qualified gas engineers called to the stand in behalf of the complainant, but also in the testimony of Mr. Little, in behalf of the defendants, in the books of account and manufacturing records of the Astoria Light, Heat and Power Company, as placed in evidence by the defendants and summarized in the tabulations of Mr. Sangster and Mr. Frank; in the annual reports of various gas companies to the Public Service Commission, placed in evidence by the defendants; and in Defendants' Exhibits AA 398

and 399, purporting to summarize the station costs of labor and materials used in gas production at the 21st Street and 99th Street stations of the complainant company.

The quantities found by the Court below are shown by the whole record to be conservative, especially in view of the abundant testimony that coal, oil and labor, in particular, have not been of the same grade of gas-making efficiency and productivity, for a number of years past and at the present time, as the coal, oil and labor formerly obtainable by the complainant. It is, of course, true that the quantity of labor and materials requisite for the production of gas in a given plant may vary somewhat during different months of the year, and may differ somewhat when the operation of one plant at one time is compared with the operation of another plant at another time, especially when these elements of labor and materials used in gas production are reduced to terms of quantities of cost per thousand cubic feet of gas made. The relationship between labor cost and the quantity of gas produced is, for example, necessarily higher in a given plant during the summer months than during the winter months; if the usual and necessary ratio between summer and winter use of the plant is maintained. This higher labor cost in summer months is inevitable, unless the labor force, including gas-makers, foremen and the like, are disbanded and disrupted during the months when the lessened demand for gas by consumers leads to a curtailment of the use of the maximum capacity of the plant. Likewise, the quantity of oil used per thousand cubic feet of gas made often

varies in different months, owing to differences in temperature of the outside air, differences in the quality of given consignments of oil, and differences even in the relative efficiency of operation at different periods. A consistent average of results, however, is obtainable in the analysis of the operating data from the production of the many billions of cubic feet of gas per year in the various plants of the Consolidated Gas Company and of the other companies within the City of New York.

Cost of Production of Gas

As already pointed out, the Master calculated the amount of 50.63 cents per M. cubic feet *sold*, which he allowed for the cost of production of gas, from the tabulations of the actual costs of water gas and of coal gas produced at Coal-gas Plants A and B and Water-gas Plant C of the Astoria Light, Heat and Power Company, as tabulated in Complainant's Exhibit 486 (Record, page 17,420).

Judge Hand, however, calculated the amount of 45.19 cents per M cubic feet of gas sold (or 5.44 cents per M less than the Master's figure) which he allowed, by taking the cost of coal-gas only at Plant A and the cost of water-gas at Plant C as tabulated *and adjusted* by Sangster, defendants' accountant, in his "Report" (Record, page 11,690).

The following is a comparison of the Master's findings as to cost of manufacture with those made by Judge Hand:

COST OF PRODUCTION

(1) **As found by the Master**

Coal Gas excl. Gas Storage (Rec., p. 52a)
Taken from Exhibit 486 (Astoria Costs, Jan.-Aug., 1919, Rec., p. 17421)

Total Cost of Coal Gas	$.4732	
Less Gas Storage	.0001	
		$.4731

Water Gas, excl. Gas Storage (Rec., p. 52a)
Taken from Exhibit 486 (Rec., p. 17,423)

Total Cost of Water Gas	.4576	
Less Gas Storage	.0001	
		.4575

Mixed Gas based on 22 per cent Coal Gas and 78 per cent Water Gas

Coal Gas .4731 x 22 per cent	.10408	
Water Gas .4575 x 78 per cent	.35685	
Mixed Gas (Rec., p. 52a)	.46093	Taken as .4609
Add Gas Storage (Rec., p. 52a)		.0001
Cost of Production based on Gas Made		.4710

Gas Unaccounted for at 7 per cent (Opinion, p. 43)
Cost of Production based on Gas Sold

@ $\frac{100}{93}$ X .4709 (= 1.0752688 X .4709) ..... $.5063

(2) **As found by Judge Hand** (1919)

Coal Gas (Rec., p. 160a)
Based on Astoria Costs of Plant A only and taken from Sangster Report (Rec., p. 11720) ..... .4155

Water Gas (Rec., p. 161a)
Based on Astoria Costs of Plant C and taken from Sangster Report (Rec., p. 11,728) ..... .44746
Less a deduction on account of generator fuel ..... .00900

Water Gas cost allowed ..... .4384
Mixed Gas at 22 per cent Coal Gas and 78 per cent Water Gas

Coal Gas .4155 x 22 per cent	.091410	
Water Gas .43846 x 78 per cent	.341999	
Total	.433409	
Cost of Production based on Gas Made		Taken as .4334
Gas Unaccounted for allowed 4.1 per cent (Rec., p. 161a)		
Cost of Production based on Gas Sold		

@ $\frac{100}{95.9}$ X .4334 (= 1.042753 X .4334) ..... $.4519

Cost of Water-Gas

The item of 44.746 cents allowed by Judge Hand per M cubic feet of water-gas (from which he deducted .900 cents on account of generator fuel, making the net 43.846 cents), was based on costs at water-gas Plant C of Astoria and was taken from the Report of Sangster, the defendants' accountant (Record, page 11,728). Sangster's figure of 44.746 is arrived at after making certain *operating adjustments* in the book cost of 45.76 cents per M as tabulated in the schedule later introduced in evidence as Exhibit 486 by Teele, the complainant's accountant (Record, pages 17,420, 17,422-17,423). The following table shows Sangster's Schedule (with his adjustments) and Teele's Schedule per books, for the first eight months of 1919:

	Sangster (Rec., pp. 11,727-11,728)	Teele, per Books (Ex. 486, Rec., pp. 17,422-17,423)
Labor	$.02916	$.0292
Generator Fuel	.10445	.1044
Boiler Fuel	.03220	.0322
Gas Oil	.27149	.2815
Sundry Supplies*	.00584	.0059
Residuals	**.02985**	**.0303**
Electric Power	.00161	.0015
Repairs at Works	.02558	.0210
Misc. Works Expense*	.00613	.0128
Mess Hall Expense	.00155	.....
Station Distribution	.00005	.0001
Light Oil Recovery, undistributed adjustment	.00075	.0007
Total	$.44746	$.4576

*Note: Combined by Sangster as "Other Supplies and Expenses," $.01197.

Figures in bold face type represent credits.

The slight differences in unit costs between Sangster and the books are due to different methods of distributing to the individual coal-gas

plants and water-gas plant of (1) gas oil for enrichment, (2) repairs, and (3) miscellaneous works expense.

Oil Used in Water-Gas Manufacture

For water-gas manufacturing purposes at the Water-gas Plant C of the Astoria Company, there was used, during the twelve months of 1918, 4.12 gallons of gas oil (Ex. 485, Record, page 17,416) and during the eight months of 1919 the same quantity of gas oil (Ex. 486, Record, page 17,422).

Sangster, who was an accountant employed by the defendants and who possessed no qualifications in respect to practical matters in the operation of a gas plant, set up a theory of what portion of carburetting the water-gas at Astoria should be attributed to enriching a portion of the coal-gas (mainly from Plant A) sent from Astoria to the Bronx as distinguished from the coal-gas (mainly from Plant B) sent to Ravenswood for enrichment (Record, pages 11,698-11,699, 11,711-11,714, 11,724-11,725, 11,855-11,856).

The Master found that:

> "In the manufacture of water-gas of the statutory standard of 22 candle power, there is required the use, per thousand cubic feet of gas made, of approximately 4.1 gallons of gas oil of the gravity and quality now being supplied to the gas company and in the manufacture of coal-gas approximately 1.6 gallons of such gas-oil are required to raise such coal-gas to the required candle-power" (Finding No. 19, Record, page 31a).

Woods, engineer of manufacture of the complainant and the Astoria Company, testified to the necessary use, per thousand cubic feet of gas made, of 4.10 gallons of oil of the quality and content which has lately been received (Record, pages 4667-4669; Exhibit 353 for Identification, Record, page 16,589). During the twelve months of 1918, the water-gas plants of the Consolidated Company used 4.13 gallons of gas oil; during the eight months of 1919, 4.09 gallons; during 1917, 4.16 gallons; during 1916, 4.11 gallons, and during 1915, 4.17 gallons (Exs. AA 398-399; Annual Repts. to P. S. C., Record, pages 10,306, 10,310, 10,313, 10,945).

At the water-gas plant of the Central Union Gas Company, there were used, per thousand cubic feet of gas made, during 1918, 4.09 gallons of gas oil; during 1917, 4.13 gallons; and during 1916, 4.18 gallons (Exhibit AA400).

At the plant of the New York Mutual Company, there were used in 1918, 4.19 gallons of gas oil; 1917, 4.23 gallons; 1916, 4.19 gallons; and during 1915, 4.33 gallons (Annl. Repts. to P. S. C., Record, page 10,306).

Little, the defendants' engineering expert, testified that gas oil ought to yield six candles per gallon of oil (Record, page 11,315), which would mean four gallons, or slightly more, to make a thousand cubic feet of gas of the required candle-power at the works.

Judge Hand, in his opinion, said:

> "As respects water-gas the necessary amount of oil to be used is not in much dispute, at least so I understand it. It is true that the average in the Manhattan plants

> has gone up from 3.80 gallons in 1913 to 4.1 in 1919, but that is less than eight per cent. increase, easily accounted for by a change in quality. It is noteworthy that in 1915, long before this suit was in contemplation, the quantity used in the Manhattan plants was 4.06, substantially what it is now at Astoria" (Record, page 160a).

Notwithstanding that the overwhelming proof warranted the Court in allowing, in the cost of water-gas manufacture, for the use of 4.1 gallons of gas oil per thousand cubic feet of gas made, the Court below adopted the lower figure of 3.9790 gallons arrived at by the defendants' witness Sangster by an arbitrary reduction of the quantity used in order to meet the theory propounded by him of how coal gas of the Astoria plant should be enriched by water gas.

Pursuing a theory (Record, pages 11,855-11,856), Sangster reduced the actual gallonage of gas oil used at the Astoria water-gas plant and attributed to water-gas purposes 4.0758 gallons during 1918, and 3.9790 gallons during the first eight months of 1919, and by applying to the latter quantity the cost per gallon of 6.8231 cents, arrived at the cost of 27.149 cents per thousand cubic feet of gas made (Record, pages 11,724-11,725), as compared with 4.12 gallons, and a cost of 28.15 cents per thousand cubic feet of gas made set forth in Teele's schedule (Record, page 17,422).

The quantity of gas oil of 3.9790 gallons and the cost of 27.149 cents per thousand cubic feet of gas made, as allowed by Judge Hand in adopting the adjusted figure of Sangster, the defendants' witness, was far less than the proof justified, and the appellants have no just cause for grievance.

The question of the reasonableness of the *price* paid for gas oil, as allowed by the Court, is discussed under Point III of this Brief.

Generator Fuel and Boiler Fuel for Water-Gas

Generator Fuel.—Sangster's figure for generator coal of 10.445 cents per thousand cubic feet of gas made, during the first eight months of 1919, covered 36.427 pounds of generator fuel, *coal and coke* (Record, pages 11,721, 11,722, 11,755, 11,756).

Teele (complainant's accountant) showed that in the water-gas plant of the Astoria Light, Heat and Power Company, there were used during the twelve months of 1918, per thousand cubic feet of gas made, 35.23 pounds of generator fuel, and 36.43 pounds during the eight months of 1919 (Exhibits 485 and 486, Record, pages 17,416, 17,422).

Mr. Woods' testimony and the exhibits (Record, pages 4665, 4666, 16,589) showed that 32.50 pounds of *anthracite* generator fuel were required for use in the generators in water-gas manufacture, having in mind the grade and content of coal then being received.

Complainant's Exhibits Nos. 360 and 361 (Record, page 16,625) and the annual reports placed in evidence by the defendants (Record, pages 10,306, 10,310, 10,313, 10,945) showed the following quantities per thousand cubic feet of gas made during 1918 and 1919:

Consolidated Gas	1918 lbs. per M	8 mos. of 1919 lbs. per M
21st Street Station.....	32.93	34.00
99th Street Station.....	32.34	32.75
21st and 99th Streets.	32.83	33.74
Mutual Co.	32.38	33.25
Standard Co.	32.58	32.87
New Amsterdam Co..	33.20	33.12
Astoria	35.23	36.43
All	33.53	34.15

Mr. Little, the defendants' engineer, in his tabulation based upon the use of oven coke which he said gave a little better result than anthracite coal, showed 32 pounds per thousand cubic feet of gas made as the required quantity of generator fuel (Record, page 11,231).

Mr. Miller, a widely experienced constructor and operator of gas properties, when interrogated regarding operating results as to generator fuel which showed 32.83 pounds in one year and 33.74 pounds in another year, said that those figures, from his knowledge and experience in plant operations in various parts of the country, showed that the Consolidated Company's plants using that quantity of coal, were operated efficiently and economically and were kept up in a highly efficient operating condition (Record, page 7681).

The Special Master, therefore, made the following finding concerning the quantity of generator fuel and boiler fuel reasonably required:

> "In the manufacture of water-gas, there is required per thousand cubic feet of gas made approximately 35 pounds of anthracite coal of the grade of coal being supplied in recent years or its fuel equivalent, of which 35 pounds of coal, about 32.5 pounds goes into the generators, and of which about 2.5 pounds are unsuitable for use in the generators and are used under the boilers along with approximately 11.5 pounds of anthracite boiler fuel or its equivalent in water-gas tar (one gallon of such tar weighing 9 pounds and 1 pound of tar being a fuel value of about 1.7 pounds of the grade of boiler fuel now and recently supplied)" (Finding 22; Record, page 31a).

When the Court below reviewed the findings of the Special Master, consistency in relying upon the figures of defendants' witness Sangster would have warranted the Court in allowing for 36.247 pounds (*supra*, page 47). But, in its course of paring unsparingly, the Court below put aside Sangster's figures and the actual operating results at Astoria, and adopted a *lower* figure to correspond with the results in the Manhattan plants, saying:

> "As respects generator fuel for water-gas, Sangster gives for House C. 35.3 pounds in 1918 and 36.43 in 1919. These are higher than either Woods's estimates or the practice on Manhattan but by less than nine per cent. in 1918. The item is only ten cents in that year and if Manhattan results were accepted it would make a difference of .9 of a cent in the price. Whether Astoria got worse coal or what was the reason I do not know. I have corrected the water-gas price by .9 of a cent for each year to allow for this, which seems to me the only correction necessary on any of the items" (Record, page 160a).

Boiler Fuel.—As to boiler fuel used in water-gas manufacture, Sangster calculated 3.220 cents per thousand cubic feet of gas made (Record, pages 11,727, 11,728), coinciding with Teele's figure from the books. This compared with the higher cost for the entire year of 1918 of 3.923 cents per thousand (Record, page 11,722). Woods testified to a present cost in October, 1919, for boiler fuel (including anthracite generator coal 2½ lbs. and anthracite boiler fuel 11½ lbs.) of 3.55 cents per thousand (Record, pages 4,666, 16,589).

Mr. Woods' testimony and his tabulation in Exhibit 353 for Identification show that there is necessarily used for the boilers in water-gas manufacture 14 pounds of anthracite boiler fuel or its equivalent, per thousand cubic feet of gas made (Record, pages 4,666, 16,589). From the same sources as above stated, we obtained full corroboration of this figure.

In the water-gas plant of the Central Union Gas Company, the quantity of boiler fuel used per thousand cubic feet of gas made was 16.86 pounds in 1918, 14.68 pounds in 1917, 16.39 pounds in 1916, and 14.55 pounds in 1915.

In the plants of the New Amsterdam Company, the quantity of boiler fuel used per thousand cubic feet of gas made was 16.33 pounds in 1918, 13.99 pounds in 1917, 13.63 pounds in 1916 and 14.57 pounds in 1915.

In 1918 the boiler fuel used in water-gas manufacture at the plant of the Standard Gas Light Company was 15.50 pounds, and at the plant of the New York Mutual Company 15.07 pounds. In the plants of the Consolidated Company during

the twelve months of 1918 the quantity was 15.66 pounds and during the eight months of 1919 was 16.15 pounds.

As to boiler fuel, it should be noted that where tar is used under the boilers, the formula for computing its solid fuel equivalent, on the basis of the kind of coal now being received, is as follows: A gallon of tar weighs nine pounds; a pound of tar is equivalent to 1.7 pounds of coal (Record, pages 5325, 5326).

Certainly, the Court's allowance for boiler fuel does not justify any criticism by the appellants.

Labor Handling of Fuel.—The Special Master found "that in addition to the cost of fuel there is involved in water-gas manufacture the expense of labor handling of fuel used in the generators and under the boilers" (Finding 25, Record, page 32a).

Sangster in his cost of generator fuel and boiler fuel included the cost of handling. The cost of handling coal and coke at the Astoria plant for the first eight months of 1919 was .144 cents per thousand cubic feet of water gas (Exhibit 486, Record, page 17,422; Sangster, Record, page 11,756). This figure did not, of course, reflect the increased labor rates which prevailed after August, 1919, and was predicated upon the use of certain labor-handling apparatus in the Astoria plant not available in every other plant but which added to the investment cost. Under the rates of pay and the efficiency of labor obtaining as of September and October, 1919, Woods' figure for the labor handling of generator and boiler fuel in water-gas manufacture, was .75 cents per thousand cubic feet of gas made (Record, page 4670).

The figures for the various companies shown in the exhibits above referred to, including the annual reports of those companies to the Public Service Commission as placed in evidence by the defendants, confirm Woods' figure, bearing in mind the increases in wages during recent years as shown by complainant's exhibits in evidence.

As compared with Mr. Woods' figure of .75 cents per thousand cubic feet of gas made as of October, 1919, the expenses of labor handling in the water-gas plant of the Central Union Gas Company for 1918 were .79 cents; for 1917, .42 cents; for 1916, .61 cents; for 1915, .35 cents; and for 1914, .24 cents.

In the water-gas plants of the Consolidated Company the expenses of labor handling, per thousand cubic feet of gas made, were for 1918, 1.09 cents; for 1917 .69 cents; for 1916 .59 cents; for 1915 .65 cents and for 1914 .64 cents.

Having in mind the fact that the operating costs of a number of plants cannot possibly be limited to the results attainable only at one plant, at which labor-handling machinery reduces the *operating costs* but increases the investment costs as compared with the other plants, the evidence would have fully justified the Court in allowing a much higher figure for this element of expense than it did in adopting Sangster's figure of the expense of .144 cents per M at water-gas plant C in Astoria.

Other Items in Water-Gas Manufacture

Sundry Supplies.—The Special Master found that in the manufacture of water gas there is also required the use of iron mass, city water and incidental minor materials and supplies (Finding 26, Record, page 32a). Sangster's figure for the eight months of 1919 for sundry supplies was .584 cents. It was only a decimal lower than Teele's figure. The Court below in its calculation of the cost of gas allowed Sangster's figure. This was substantially lower than the figure to which Woods testified of one cent per thousand (Record, pages 4671, 16589, 4883 and 4889).

Residuals.—For a credit on account of residuals recovered from the enrichment oil, Sangster included 2.985 cents which differed only decimally from Teele's figure taken from the books and that figure was the figure allowed by the Court below. The quantity of residuals recovered consisted of .8505 gallons of oil tar and .045 gallons of drip oil, per thousand cubic feet of gas made (Record, page 11,756), but Sangster transferred a proportion of the residuals to the cost of enriching at Astoria coal gas which is otherwise diverted to Ravenswood, and allowed .71302 gallons of oil tar and .03764 gallons of drip oil from which would be realized 2.9853 cents per thousand cubic feet of gas made (Record, page 11,726). The Special Master allowed for residuals a credit of a lesser quantity of water tar but of a greater quantity of drip oil than did the Court in adopting Sangster's figures, the Master saying in his finding:

> "In the manufacture of water-gas there is realized as a residual credit about .656 gallons of water-gas tar per thousand cubic feet of gas made, which, as of October,

1919, had a market or sale value of 4 cents per gallon. There is also realized as a residual credit in water-gas manufacture about .0615 gallons of drip oil per thousand cubic feet of gas made, which, in October, 1919, had a market or sale value of 5.7 cents per gallon" (Finding 27, Record, page 32a).

Mr. Woods testified that in water-gas manufacture there is realized, per thousand cubic feet of gas made, approximately .656 gallons of water-gas tar and approximately .0615 gallons of drip-oil (Record, pages 4674-4675, 16,589).

The residuals actually realized at the plants of the Consolidated Company for the respective years, as shown by the above-mentioned exhibits, were as follows, in gallons:

	1918	1917	1916	1915	1914
Tar	.680	.811	.733	.833	.746
Drip-oil ..	.1046	.0557	.0488	.0730	.0193

In the plants of the New Amsterdam Company, the residuals realized were respectively as follows, in gallons:

	1918	1917	1916	1915	1914
Tar	.726	.699	.677	.731	.648
Drip-oil ..	.0407	.0203	.0242	.0037	.0162

In the plant of the New York Mutual Company the residuals realized were respectively as follows, in gallons:

	1918	1917	1916	1915	1914
Tar	.570	.616	.621	.656	.681
Drip-oil ..	.0369	.0278	...	...	...

In the plant of the Standard Gas Light Company the residuals realized were respectively as follows, in gallons:

	1918	1917	1916	1915	1914
Tar	.727	.75	.76	.86	.82
Drip-oil ..	.0562	.0217	.0163	0242	.0099

In connection with residual credits it will be recognized that the relative quantities of tar realized tend to become more or less according as less or more of drip oil is realized, and *vice versa.*

Prices of Residuals—Water-gas—In connection with the prices for residuals, it should also be kept in mind that during 1917 and 1918 the prices obtainable for these residuals were unprecedently high because of the demand for their use in war industries, and that the large proceeds from residuals during 1917 and 1918 kept the net cost of manufacture of water-gas, and to an even greater extent of coal-gas, very much below what it would have been under any ordinary prices for residuals. As soon as the war ended, the prices for residuals fell off, and the 1919 and 1920 prices for residuals are very much below what they were during 1917 and 1918.

Gas-Making Labor, Repair Labor, Repair Material, Miscellaneous Works Expense and Gas Storage Expenses

The Special Master found that:

> "There is necessary in the manufacture of water-gas the employment of gas-making labor, the employment of repair labor, the use of repair material, the incurring of miscellaneous works expense and the incurring of gas storage expenses at the works and distributing holders" (Finding 29, Record, page 32a).

Sangster included in his schedules, and the Court allowed in the cost of water-gas manufacture,

	Per M cu. ft. of gas made
Gas-Making Labor	2.916c
Electric Power	.161c
Repairs at Works	2.558c
Miscellaneous Works Expense	.613c
Station Distribution	.005c
Mess Hall Expense	.155c
Total	6.408c

These figures of Sangster the Court below adopted without variation. They agree with Teele's figures taken from the books, except as to the cost of Repairs at Works and Miscellaneous Works Expense. Sangster calculated Repairs at Works at 2.558 cents per thousand, and Teele, taking his figures from the books, calculated them at 2.10 cents per thousand; Sangster calculated Miscellaneous Works Expense at .00613, while Teele's figure taken from the books was 1.28 cents per thousand (Sangster, Record, pages 11,227-

11,228; Teele's Exhibit 486, Record, pages 17,422, 17,423). Sangster's difference from the books as to Works Repairs is apparently due to the fact that he distributed the repairs to the electric power plant serving both the coal gas and water gas units on the basis of gas made, instead of, as the books showed, upon the basis of current consumed at each plant. The difference between Sangster's report and Teele's Exhibit 486 in respect to the item of Miscellaneous Works Expense, is due to the difference of distribution of that item among coal gas plants A and B and water gas plant C; but Sangster does not differ from the books in the total Miscellaneous Works Expense of 1.28 cents per thousand cubic feet for all three plants.

Mr. Woods computed that the expense of gas-making labor was 2.5 cents per thousand cubic feet of gas made; that the expense of repair labor and repair materials was 3 cents per thousand cubic feet of gas made; and that the item of miscellaneous works expense was 1.25 cents per thousand cubic feet of gas made, making a total of 6.75 cents per thousand cubic feet of gas made, *for only three of the six items* comprised in Sangster's 6.408 cents (Record, pages 4,670-4,671, 16,589), and taking into account the increase in rates of pay between 1918 and 1919, the following table compiled from the exhibits above referred to, is confirmatory (the figures being given in cents per thousand):

WATER GAS

Cost (in c. per M cubic ft. of gas made) for the items given

	CONSOLIDATED			ASTORIA		
	Woods Oct. '19	12 mos. 1918	8 mos. 1919	Woods Oct. '19	12 mos. 1918	8 mos. 1919
Gas-making Labor....	2.50	1.84	2.29	2.50	2.76	2.92
Repairs	3.00	1.82	2.83	3.00	2.08	2.10
Misc. Works Expense.	1.25	1.32	1.52	1.25	.64	1.28
Total	6.75	4.98	6.64	6.75	5.48	6.30

Unfortunately, none of the 1919 figures for other companies in the City of New York were put in evidence by the defendants, but the 1918 figures for various companies are available. It should, of course, be kept in mind that what is being compared are Mr. Woods' figures, based on rates of pay in force in October, 1919, with the cost of these items of expense under the wages and prices prevailing in 1918:

WATER GAS

Cost (in c. per M cubic ft. of gas made) for the items given

	Woods (1919)	New Amsterdam Company	Central Union	Standard	Mutual
Gas-making Labor....	2.50	2.71	3.24	3.47	2.43
Repairs	3.00	1.94	2.09	1.87	2.08
Misc. Works Expense.	1.25	.50	.60	.56	.85
Total	6.75	5.15	5.93	5.90	5.36

Again adopting Sangster's figures, the Court below allowed the Station Distribution Cost at Astoria of .005 cents per thousand. Obviously this allowance did not and could not cover the total cost of gas storage at the works and distributing holders per thousand of all the gas distributed by the Consolidated Gas Company. The Court allowed for the cost of gas storage .97 cents per thousand, "based on the years 1918 and 1919" (Record, page 171a). Woods testified to a cost of 1 cent per thousand made (Record, pages 4692, 16,589). The Master found that the average and reasonable cost of gas storage was 1 cent per thousand cubic feet (Finding No. 32, Record, page 32A). The Court, however, took the lower figures.

Total Cost Allowed for Water-gas Manufacture.

The cost of water-gas manufacture (exclusive of gas storage expense) under the prices of materials and labor in force during the eight months ending August 31, 1919, was found by the Master to be 48.43 cents per thousand cubic feet of gas made in the plants of the *Consolidated Gas Company* (Finding No. 30, Record, page 32A; Exhibits 364, 365 and 387), and in the plants of the *Astoria Light, Heat and Power Company* 45.75 cents (Finding No. 31, Record, page 32A; Exhibits 485 and 486). The Master, however, adopted the lower figure of 45.75 cents as a standard for testing the constitutionality of the statute. By combining this cost of water-gas (45.75 cents per thousand) with the cost allowed by him for coal gas (47.31 cents per thousand) in the ratio of 22 and 78 respectively, and adding gas storage, the Master found the cost of production based on gas *made* as 47.09 cents per thousand,

and allowing 7 per cent. for unaccounted-for, he found the cost of production based on gas *sold* as 50.63 cents per thousand.

Judge Hand, by following substantially Sanger's figure except where he reduced the cost of generator fuel, found as the cost of water-gas at Astoria Plant C 43.846 cents per thousand which, when combined with the coal gas cost as allowed by him (41.55 cents per thousand), produced a cost of production based on gas *made* of 43.34 cents per thousand, and, allowing only 4.1 per cent. (much below the actual) for unaccounted-for gas, he arrived at a cost of production based on gas *sold* of 45.19 cents, or more than 5 cents less than the Special Master did, and 8 cents less than the actual cost of manufacture at the Consolidated plants, exclusive of gas purchased.

Cost of Coal Gas

The Master found that the cost of coal gas manufacture (exclusive of gas storage expense) during the eight months ending August 31, 1919, under the prices of materials and labor at that time in force, was 47.31 cents per thousand cubic feet of gas made in the plants of the Astoria Light, Heat and Power Company (Finding 42, Record, page 34A). This finding was based upon Complainant's Exhibit 486, being the schedules prepared by Teele, the complainant's accountant, of costs and details of production of the Astoria Light, Heat and Power Company for the eight months ended August 31, 1918 (Record, page 17,420), and embraces the *combined cost* of *coal gas manufactured at coal gas* plants A and B.

It will be recalled that part of the coal gas produced at Astoria is sent to the Ravenswood plant

of the New Amsterdam Gas Company through the 60-inch and 48-inch gas mains owned by The East River Gas Company, for enrichment, while the balance of the gas leaving the Astoria works is sent to the Bronx through the Astoria tunnel, also owned by The East River Company, being mixed with the water-gas manufactured at plant C at Astoria (Sangster, Record, page 11,698).

Sangster, in his report, computed the combined cost of coal gas manufactured during the eight months of 1919 at 48.761 cents per thousand cubic feet of gas made, this average resulting from a cost which he computed for that period at Plant A of 41.547 cents per thousand cubic feet made, and at Plant B of 61.018 cents per thousand cubic feet of gas made, which he arrived at after making certain adjustments in the actual book cost. Obviously, it would have been unfair to adopt as a standard for the cost of making gas the higher figure of 61.018 cents per thousand which Sangster calculated for the cost of coal gas at *only Plant B*, and consistently the rate chargeable by the complainant should not be restricted to a basis of the exceptionally low cost of gas manufacture of 41.547 cents per thousand which Sangster computed was attainable *only at coal-gas Plant A*. The Special Master, therefore, took the average of results at both of these coal-gas plants; but the Court below, paring unsparingly, adopted for the purpose of this test the extremely low costs at only coal-gas Plant A (Record, page 159a).

In adopting the cost at coal-gas Plant A the Court failed to make due allowance for an important element which enters into the *total* cost of service. The lower cost of production at coal-gas Plant A resulted in part from operating conditions of labor and materials, and in part from the use of certain labor-saving devices which have

not been installed in Plant B, but which entail a greater amount of investment over the investment in Plant B, and make the amount of return required upon the investment in Plant A greater per thousand cubic feet of gas than the return required upon the investment in Plant B. If there were any justification for applying to the cost of coal-gas manufacture the standard of the low costs attained only at Plant A, then, upon the assumption of the use merely of the capacity of Plant B, but with the additional apparatus in Plant A, there should have been added by the Court below to the cost of investment allowed for necessary plant, a sum representing the necessary cost of additional investment in the labor-saving appliances, thereby increasing the total amount of investment which the Court used as a basis for computing the return. Thus, in the lower operating costs adopted by the Court, the Court proceeded upon the assumption of the use of property requiring an amount of investment greater than the amount which the Court allowed in the "rate base," such excess representing the necessary cost of investment in additional labor and material-saving apparatus; but, when the Court came to computing the *quantum* of property and the investment therein upon which the complainant is entitled to a return, it allowed only for the property which was actually used and the investment therein. Appellee says, of course, that such a method of computation operated very seriously to the disadvantage of the complainant-appellee, but again, the justification for it is the unsparing paring of the operating costs.

While it would seem, therefore, that there is no rational ground for criticism *by the appellants* of the low figures adopted by the Court below for

the cost of coal gas manufactured, yet, in order to meet the contentions perversely raised by the appellants, we shall discuss the details of coal-gas manufacture at Plant A which were included by the Court below in its finding.

Sangster's figure of 41.547 cents per thousand for coal-gas Plant A which the Court below adopted in preference to the average cost of coal gas at Plants A and B of 48.761 cents, is made up of the following items (Sangster's Report, Record, page 11,720):

Eight Months of 1919

	Plant A
Labor	$0.07364
Coal Carbonized	0.55805
Bench Fuel	0.04939
Boiler Fuel	0.01709
Enrichment	0.11553
Other Supplies and Expenses*	0.02480
Total Labor and Material	$0.83850
Residuals—net	$0.50097
Light Oil Recoveries, etc., operations	0.00076
Total Residuals, etc.	$0.50173
Net Cost—Labor & Material	$0.33677
Electric Power	0.01576
Repairs at Works	0.06134
Station Distribution	0.00005
Mess Hall Expense	0.00155
Total	$0.41547

* Composed of Sundry Supplies, .00993; Misc. Works Expense, .01487.

The Court below having adopted Sangster's coal-gas figures (which were about seven cents less than the Master's coal-gas figures), it was only fair that the Court should not try to match each figure in Sangster's computation against lower figures for corresponding items which may have some basis in the testimony, but which were not and could not be attained at coal-gas Plant A.

Gas-Making Coal

The Master found that in the manufacture of coal gas there is required the use of approximately 200 pounds of bituminous gas coal per thousand cubic feet of gas made (Finding No. 33; Record, pages 32a-33a), basing his figures upon Woods' testimony (Record, pages 4685, 16,590). But Woods did not suggest that figure as any limit of what was reasonably required under the operating conditions which were actually experienced with the kind of coal gas that was available at the Astoria plant during the first eight months of 1919, for Woods testified (Record, pages 4636, 4928-4929, 4930):

> "I might say that coal gas, speaking roughly, would be about five cubic feet to the pound, or 10,000 feet to the short ton. Now, you can make from 9,500 feet to the ton to 10,500 to the ton, and your b. t. u.'s. per pound of coal carbonized of your candle power in feet per pound of coal carbonized would be approximately the same. As you lower your yield you increase your heating value and you increase your candle power value. As you go up the reverse happens, your heating value goes down and your candle power goes down. So that between those ranges, insofar as the value is concerned, the heating value or lighting value, there is very little difference."

"Q. What plant did you have in mind as using 200 pounds of coal to make a thousand cubic feet of coal gas—any?

A. Well, no particular plant, because it was an average condition with a fair grade of coal which will give you about five cubic feet to the pound. As I said the other day, you can run that from 5.40 to 5.60 or 75, or up to five and a half, the result being approximately the same insofar as the heating value per pound of coal or candle feet per pound of coal is concerned. It does not make any difference.

Q. What kind of bituminous coal did you have in mind, coming from where?

A. A good grade of Pennsylvania, or a good grade of West Virginia coal.

Q. That varies in its quality?

A. Oh, it varies.

Q. Then if it varied in quality that would vary the number of pounds?

A. That would change it, go up and down.

Q. It does change from time to time?

A. It does change, yes. We do not get the same yield every day, day in and day out."

"Q. What would be the candle power of this gas you would get with a yield of about cubic feet per two hundred pounds of coal?

A. It would depend somewhat upon the coal, and depend upon the amount of hydrocarbons in the coal—what we call the volatile matter; it would run anywhere from 67 to 73—probably an average of 70 candle feet, which would be about fourteen candles."

The Court below, therefore, adopted the actual quantity used at Astoria as reflected in Sangster's computations rather than a quantity which

could not have produced a thousand cubic feet of gas with the kind of coal that was actually available, the Court saying:

> "The amount of coal and oil necessarily vary with the quality of each. Everyone agrees that the quality of coal has fallen off in recent years; it is urged that at Astoria the amount of coal is inordinate. Now Mr. Wood's estimate of bituminous coal for coal-gas was indeed only two hundred pounds and that was ample before 1916, but in 1918 House A. in Astoria used by Sangster's tables 207.6 pounds, and in 1919 nearly 211.5. These figures seem too large and would have been so in the earlier years, but Mr. Little himself thought Woods' estimate too low at the present time and insisted that two hundred and seven pounds was necessary, substantially the Astoria practise in 1918, and near enough to that of 1919 not to justify suspicion" (Record, page 160a).

In main support of a contention presented in the brief of the Appellant Swann (Point XI, pages 339 *et seq.*), that "Judge Hand's conclusion on the reasonable cost of production in 1918 and 1919 is based upon an erroneous conception of the evidence," there is cited, as "the first palpable error of the Court", the quantity of bituminous coal required in the production of each thousand feet of coal gas, of 207.6 pounds for 1918, and nearly 211.5 pounds in 1919 (Appellant Swann's Brief, page 340). It is claimed that there is no evidence to support Judge Hand's finding. In the first place, the Corporation Counsel completely ignores the fact that the Court's figures are taken from the computations of the cost of coal gas at Plant A made by Sangster, the defendants' witness. In the second place, he

overlooks the testimony of Mr. Woods, quoted above, in which he pointed out that under conditions which were prevalent in the early part of 1919, such coal consumption was reasonable, and that with a lesser quantity of coal used, a higher quantity of enriching oil would have to be used, thus increasing the oil cost and offsetting the saving in coal cost. Finally, there is attributed to Little testimony that 181.8 pounds of coal or 192 pounds of coal was required per thousand cubic feet of gas (Appellant Swann's Brief, pages 341-342). It is stated (at page 341 of Appellant Swann's brief) that "Little proposed to make 3,113,750,000 cubic feet in the inclined retort House A, using 600,000 000 pounds of coal, which is equivalent to 5.1896 feet per pound, or approximately 192 pounds of coal per thousand cubic feet of gas," and that he similarly clearly shows that he proposed to make, in house B, 3,165,027,000 feet of gas with the use of "600,000,000 pounds of coal," or approximately 190 pounds of coal per thousand cubic feet of gas. At pages 11210-11211 setting forth Little's theory of operating Plant A to produce 3,113,750,000 cubic feet of gas, Little proposed to use *300,000 tons* of coal for the retorts. If Little meant *300,000 gross tons*, then according to his figures, 216 pounds of coal per thousand cubic feet of gas would be required.

The appellant Swann's brief also points out the wide fluctuations in the use of coal gas at the 14th Street and 42nd Street plants (Brief, page 346), mis-stating the use to which the coal was put. These plants are used for emergency operation, and, after the benches are heated, they are kept going until it becomes necessary to supplement the gas production at other plants with gas production at these plants in order to meet peak

requirements. During the stand-by periods, and throughout the year when the plants are not actively operated, certain costs of maintenance and of making ready are incurred, which are included in the cost of gas actually produced, and which make the cost of gas produced per thousand cubic feet, *during a brief period*, appear to be high. The relatively high quantity of coal required per thousand cubic feet of gas in recent years at the 14th Street and 42nd Street coal gas plants was due to the short period of operation of these plants; some of the gas produced in the first few days being lost in purging out the system and lost through cracks always appearing in coal retorts, and also, when the benches are first started up, charges are not so fully or so evenly burned off and therefore the yield is not so high. If these stations were run for a longer period, it is probable that their yield per pound of coal would have been more normal, as it was during longer periods of operations. The unusually low quantities of coal used at the 42nd Street plant in earlier years, to which appellant Swann's brief refers in contrast with the quantity of coal used at Plant A at Astoria, are due to the fact that the gas produced at that plant in those years included the *oil gas* produced for enrichment, for which the ordinary quantity of coal gas is not required.

The same brief (at pages 347-348) sets up a chimerical cost per thousand cubic feet of gas, if there had been a yield of 5.5 feet of gas per pound of coal, upon which the calculation is predicated, and if the cost which was incurred in producing 1,852,877 M. cubic feet had been sufficient to produce 2,155,723 M. cubic feet. This argument fails to take into consideration that, with the use of a *lower* quantity of *gas coal*, a

greater amount of *enriching oil* would necessarily have been used per thousand cubic feet of gas in order to overcome the poor quality of coal gas, even if *arguendo* 5.5 cubic feet of gas per pound of coal would have been possible of accomplishment.

Bench and Boiler Fuel—Coal Gas

As to bench and boiler fuel, Judge Hand, in his opinion said:

> "The bench and boiler fuel accounts in either year (1918 and 1919) was a very small proportion of the cost of materials, and any saving if saving there should have been, would hardly figure appreciably." (Record, page 160-A).

Enriching Oil for Coal Gas

In adopting Sangster's computation of costs of coal gas manufacture at Plant A at Astoria, the Court below included for the eight months of 1919, 11.553 cents per thousand cubic feet of gas for oil enrichment. Under Sangster's theory of enriching coal gas from Plant A at Astoria instead of sending it to Ravenswood for enrichment, he included in the cost of coal gas at Plant A 1.86 gallons per thousand cubic feet for enrichment, the amount which he found had been used at Ravenswood (Record, pages 11712-11713). He, of course, also makes a greater credit against production costs for oil tar and drip oil recoveries upon the assumption that the coal gas was being enriched at Astoria (Record, page 11,713). The appellant Swann, in his brief (pages 348-349), complains of the adoption by Judge Hand of the computations made by the defendant's witness

Sangster, instead of assuming 1.6 gallons of oil, which Mr. Woods testified was a reasonable quantity for enriching purposes. In other words, the defendants contend that the Court below should have selected for each element of manufacture the lowest cost attained at any place, irrespective of the fact that at no single plant were all such costs attainable—a proposal which does not deserve to be dignified by counter-argument. But again, the defendants are attempting to work up a chimera. Mr. Woods' figure of 1.6 gallons of oil for enrichment was based upon the use of 200 pounds of coal per M, or not more than 5 cubic feet of gas per pound. The defendants having assumed a yield of 5.5 cubic feet per pound, which produces a lower thermal and calorific quality of gas, there cannot be assumed the use of only 1.6 gallons of oil for enrichment. Even Sangster's figure of 1.86 gallons of oil would probably be too low, in order to produce the 22-candle power. Sangster testified on cross-examination that he did not know whether the 22-candle power standard could be maintained on the distributing system with the use of that quantity of oil (Record, pages 11,855-11,856).

Residuals—Coal Gas

On account of residuals derived from the coal gas manufacture, the Court below allowed as a net credit against the cost of manufacture, 50.097 cents per thousand, which is the figure computed by Sangster in his table.

This is 12.677 cents per thousand more than the Master found should be properly deducted from

the cost of coal gas manufacture, at the market or sale price of the residuals as of October, 1919, (Findings, 36 and 37, Record, page 33a). It is also more than the figures to which Mr. Woods testified at Record, pages 4,687 *et seq.*, 16,590. Here again the Court adhered to Sangster's figure, although it would have been fully justified in taking the lower credit figure, thereby increasing its allowance for the cost.

Gas-Making Labor, Repair Labor, Repair Material, Miscellaneous Works Expense and Gas Storage Expense—Coal Gas

The Court below again adopted Sangster's figures as follows:

	Per M.
Gas-making labor	7.364c
Repairs at Works	6.134c
Miscellaneous Works Expense	1.487c
Station Distribution	.005c
Total	14.990c

Woods testified (Record, pages 4,691-4,692, 16,590), that in the manufacture of coal-gas there are required, under the material prices and labor rates of pay obtaining as of October, 1919, the following expenses:

	Per M.
Gas-making Labor	9.00c
Repair Labor	6.00c
Repair Material	6.00c
Miscellaneous Works Expense	1.50c
Gas Storage	1.00c
Total	23.50c

Other Items of Coal Gas Manufacture

The Court below accepted all the other items of coal gas manufacture as computed by Mr. Sangster.

Total Cost of Coal Gas Manufacture

The Master found that:

> "42. During the year 1918, under the prices of labor and materials at that time in force the cost of coal-gas manufacture (exclusive of gas storage expense) was 33.95 cents per thousand cubic feet of gas made in the plants of the Astoria Light, Heat & Power Company, and during the eight months ending August 31, 1919, the cost of coal-gas manufacture (exclusive of gas storage expense) under the prices of materials and labor at that time in force, was 47.31 cents per thousand cubic feet of gas made in the plants of the Astoria Light, Heat & Power Company." (Record, page 34-A.)
>
> "44. On the basis of the ratio of 22 per cent. coal-gas and 78 per cent. water-gas obtaining in the manufacture of gas supplied to the consumers of the complainant company, the average station cost of such gas, as of September 1, 1919, including the cost of gas storage, was not less than 47.09 cents per thousand cubic feet of gas made and not less than 50.63 cents per thousand cubic feet of gas sold. The average station cost of such gas at this time is not less than 50.63 cents per thousand cubic feet sold." (Record, page 34-A.)

The Court below radically reduced the Master's figures, arriving at an average cost of coal and water gas combined, as of January to August, 1919, of 45.19 cents per thousand, saying:

"Taking, then, House A. as such a standard and accepting Sangster's analysis of its actual expenses, we may start with a total cost of production at the plant meter for *coal-gas of* $.4155. Sangster's figure for *water-gas* at House C. is $.44746, which I take at *$.43846*.

"Taking the average of $.4155 and $.43846 on the basis of twenty-two per cent. for coal gas and seventy-eight per cent. for water gas, the final figure is *$.4334*. If the proper proportion between coal and water gas be half and half, this figure would be $.4270. Allowing a loss of gas on the average of 4.1% the cost in the consumer's meter is for these two figures respectively, $.4519 and $.4452" (Record, pages 160A-161A).

"If I take Sangster's figures for 1918 I find the cost of coal-gas at House A was $.31537. The cost of water-gas at House C, $.39843. Taking the proportions of twenty-two per cent. to seventy-eight per cent., and half and half, and allowing 4.1 per cent. for loss, I get $.3964, or $.3723 respectively for these figures." (Record, page 162a).

Little's "Ideal Coal-Gas Production" under "Purely Hypothetical Conditions"

Aside from the wholly unsuccessful attempts made by the defendants to show that the prices paid by the complainant for coal and gas oil were in excess of market prices for such materials quoted for different qualities and under dissimilar conditions, the affirmative proof of the defendants concerning the cost of producing gas consisted of (a) Sangster's analyses and tables, which, with some adjustments, closely adhered to and confirmed the accounting record of the cost of operation of the Astoria Light, Heat and Power

Company's manufacturing plants, supplemented by Frank's tables of that company's records, and (b) Little's testimony as to "ideal" production of gas under "purely hypothetical conditions." The Master and the Court below greatly exaggerated the significance and value of Little's testimony. Little's proposal that the complainant might have scrapped its present plant and substituted a by-product coke oven system, of which the production and sale of coke would be the complainant's principal business and the disposal of by-product gas a subsidiary incident, was discussed at length by the Court at pages 156a to 159a of the record, and we shall not undertake further comment upon the suggestion that many millions of investment be "scrapped" and an uncertain, experimental mode of manufacture substituted. Concerning substantially the balance of Little's testimony as to the possibility of effecting economies by producing gas in quantities far in excess of the total annual demand and of the demands of consumers at certain seasons of the year, the Court below said:

> "Little's figure for *ideal* coal-gas production at House A. in 1919 is $.28 and for water-gas at House C. $.396. The difference is in part taken up in the cost of materials, and in the number of employees, his estimate of labor being prepared upon hypothetical standards of what a proper plant should require. As to the cost of materials, the chief difference is the price of oil. Thus, the difference for oil alone is $.03149, making the cost of water gas $.4275 if so corrected, as against $.43846. The apparent difference is much more more marked in the coal-gas made in House A., but most of it is in oil, repairs and the like. For example, there is a difference of $.0477 in the cost of enrichment alone which certainly should be taken on the basis of the actual amounts paid for oil

and the necessary amounts used. Again for electric power, superintendence and repairs, he allows only $.0255 in all, (as I figure the several items), as against actual expense of $.08309, a difference of $.0576.

"Thus with only these corrections, which are inevitably proper from any aspect, his ideal coal-gas cost for 1919 becomes $.3853 and his water-gas $.4275. Taking these figures in the two proportions mentioned and making allowance for 4.1% loss, his figures would be respectively, $.4358 and $.4238. These differ from the figures for 1919 by $.0161 and $.0214.

"Some part of this is probably accounted for by the fact that in Little's figures he considered House A. as running at one hundred per cent. per day for three hundred and ten days and House C. at one hundred and ten per cent. capacity for three hundred and sixty-five days. If this was erroneous the fixed charges on each house were divided by too high a figure, and the result was too small per thousand cubic feet. I have already noticed a difference in the caste of some of these items, but it will obtain in all those whose gross amount, unlike materials, does not vary directly with production. Among these labor is one, at least in House A., with inclined retorts, since the same crew will make a varying output at the same wages. This, Wood says, is not so in House B. It is quite clear that the supposed optimum of Little is far beyond any practical possibility and should not be taken as a standard. All the plants necessary for the daily "peaks" with reserve must be kept up all the time with some part of their complement, and it is not fair when seeking a standard not to credit any particular plant with so much idle time as all the company's plants must collectively bear. Under the heading, "Present Capacity and Reserve" I have considered this matter, and show that it is impossible to say that the com-

pany has too much capacity. It is, of course, always possible to show that a given plant was worked less than the average, *e. g.*, the Fourteenth Street and Forty-second Street plants, and that its costs should not therefore be accepted as a guide, but that is not the case with either House A. or House C. In 1918 the company's total production, leaving out Fourteenth Street and Forty-second Street and gas bought, was 17,599,323 thousand cubic feet. Its daily rated capacity was 84,000 thousand cubic feet, a total for three hundred and sixty-five days of 30,660,000 thousand cubic feet. The production was fifty-seven per cent. plus of rated capacity. During that year the production of House A. was fifty-two per cent. minus of capacity and of House C., sixty-one per cent. minus. For the eight months of 1919 the total was fifty-eight per cent. plus*, for House A. seventy-six per cent. plus, and for House C. fifty-eight per cent. minus. Thus it appears that taking both years together these houses were kept at about normal production.

"I think it would be impossible to say whether this would account for the whole difference between Little's figures, corrected for materials, and the actual results at House A. and House C. That would require accurate knowledge of what is the difference of complement between full and part capacity production. However, it is clear that there would be some difference and that in any case *Little's figures necessarily based upon purely hypothetical conditions* may not fairly be taken against the actual practice which come so near to them in results." (Record, pages 161A-162A.)

* Without deducting Fourteenth Street and Forty-second Street, which I do not find but which is too small to change the result.

The Defendants Have Exaggerated Mr. Little's Qualifications and Experience

Little had been a purveyor of labor-saving machinery and devices, mostly in England, but more recently in this country. He had no experience at all in New York City and no extended observation of conditions here; no experience at all in water-gas manufacture or distribution in this country. *His sole experience as an operating gas-engineer consisted of six months spent as manager of the plant of the Vincennes Gas Company,* in Indiana, which, he testified, was *a coal-gas plant.* This plant he stated to have a capacity of 1,500,000 cubic feet per day (Rec., page 12,168)—about one-half the capacity of a single one of the twelve generators at the Astoria plant. He admitted that the unaccounted for gas of his Vincennes plant amounted to 22 per cent. per annum (Record, page 12,168) as against the 7 per cent. allowed by the Master and 4.1 allowed by the Court. Pressed as to what other, if any, experience he had had in plant operation or system management, he testified:

> *"I can state quite positively that I have not, outside of the Vincennes operation, had the responsibility as an employee of a gas company for the production or distribution of gas."*

Little's whole testimony, on direct and cross examination, was amazing in its admissions, its changes of front, and its palpable blunders due to lack of knowledge.

He presented ponderous computations and tables as to the installation of a great coke-oven plant and the economies to be thereby effected (Rec., page 11,665), and then, when his computa-

tions had been riddled, and he had been compelled to admit (Rec., page 11,334) that the Illinois and Chicago companies were overstocked with coke that could not be sold, he sought refuge in an admission that he would not advise this company to install such a plant in New York.

Confronted squarely with the crucial question of fact in this case Little admitted the essence of the complainant's claim as follows (Rec., page 11,291):

> *"Q. Is it your judgment that this company, with its plants and with the present costs of labor and material, can make gas and sell it at 80 cents, and pay those costs, and earn a return on what you would consider as necessary investment?*
>
> *"Mr. O'Brien:* Same objection.
>
> *"The Master:* Same ruling.
>
> *"Mr. O'Brien:* Exception.
>
> *"A. No."*

Later, when the Corporation Counsel tried to explain this away, Little said that this was true, assuming the company's expenses beyond the holder were as shown by Teele, but Little's own estimate or calculation of the necessary and proper "expenses beyond the holder" varied so little from the company's actual expenses as to leave the company far short of even a six per cent. return on much of its investment. (Record, pages 11,257, 11,259).

He presented elaborate tables on the assumption that by running the plants more nearly to capacity during the summer months, more gas could be produced, and the cost per thousand reduced, and then "re-vamped" the distribution expenses by using the larger divisor of 22 billion cubic feet of annual sales (Rec., page 11,255-6),

instead of the eighteen, or at most, nineteen billions of present and prospective sales.

Later he found that gas could not be made in this way; he had overlooked the low summer demand; plants could not be run to capacity in midsummer and stored for winter; and finally (Rec., pages 12,188-90), he abandoned his twenty-two billion figure, saying:

> "Q. On what basis do you assume a more than 20 per cent. increase in the send-out and requirements of the complainant company from 1919 to 1920?
>
> A. At the time when I figured the amount that you would be likely to sell I did not have all of the figures, or any of the figures beyond August, 1919. I therefore calculated what I thought would be the sales for 1920. • • •
>
> "Q. Well, on the basis of your figures it has taken at least nine years to bring about such an increase in annual requirements as you have assumed to take place in a single year. Do you still adhere to your assumed increase of 20 per cent. for 1920, and 23,660,000,000 cubic feet requirements for 1920?
>
> *Mr. O'Brien:* I object to that as incompetent, irrelevant and immaterial, whether he still adheres to something.
>
> *The Master:* The objection will not be sustained, it will be overruled. I think the question is repetition, because the witness has already thrown these figures out of the window, but I am going to let him throw them out again. You have discarded these figures, you say they are too high?
>
> *The Witness: Yes, sir, they are too high.*"

But taking Mr. Little's elaborate computations, without attempting to follow through their mazes, it is to be noted that in the final analysis he finds the cost of gas to be 76.65688 cents per thousand cubic feet, "based on Astoria plants and 21st Street and 99th Street plants as detailed, but including some element of return" (Record, page 11,257). Following the method adopted by the Master and the Court below, there would be deducted from this amount the Miscellaneous Operating Revenue, which item computes at 6.09 cents per thousand cubic feet, leaving as his net cost of gas (Finding 61, Rec., page 37A) 70.56 cents, as against the Master's 75.18 cents and the Court's 68.22 cents (Rec., page 182A), after deducting their respective allowances for Miscellaneous Revenues.

Little specifically omitted to make any provision for renewals and replacements on the property of the Consolidated Gas Company computed by the Master at 3 cents per thousand cubic feet sold, (Rec., page 37A), and by the Court at 3.73 cents (Rec., page 171A).

Little allowed a station cost of 49.82165 cents per thousand (Rec., page 11,255), as against the Master's finding of 50.63 cents, and the Court's finding of 45.19 cents, per thousand cubic feet.

It would be hardly reasonable to accept Little's conclusions over those reached judicially by the Master or by the Court. On the other hand, in the opinion of complainant, Little's computations furnish as good a confirmation of the very conservative findings in respect of the cost of gas as could be expected under the circumstances.

The fact that Mr. Little chose to use 22,000,000,000 cubic feet in computing his profit of $2,057,298 instead of the figure found by the Master of 19,000,000,000 cubic feet, the Master's figure being no less than 678,410,200 cubic feet more than complainant's sales amounted to for the nominal year ended October 31, 1919 (Exhibit 387) created, of course, a purely fictitious and visionary profit which may not be assumed to exist for any purpose in connection with this proceeding. On page 12,190, as we have seen, he threw his twenty-two billion figure overboard and all that went with it.

Comparative Cost of Coal-gas Manufacture and Water-Gas Manufacture

The cost of coal-gas manufacture and the cost of water-gas manufacture cannot be kept continuously at a parity, for the costs entering into the manufacture by each process fluctuate with changes in the cost of the principal elements entering therein, which differ with each process. There is no direct relation between the costs entering into coal-gas manufacture and the costs entering into water-gas manufacture. The prices for the principal elements of one may at one time result in a higher cost of that kind of gas than of the other kind, and at another time may result in a lower cost. As the companies of the Consolidated System produce both kinds of gas, any saving which may be afforded for the time being by either process is secured to the extent that the capacities of the respective plants render such economies possible.

Mr. Woods, the complainant's engineer of manufacture, who has had extensive experience in operating both coal-gas plants and water-gas

plants, testified that a water-gas plant is a cheaper unit per thousand cubic feet of gas produced than a coal-gas plant, in that a water-gas plant requires an investment in buildings and apparatus of one-half of a coal-gas plant, and in land of one-third of a coal-gas plant. He pointed out that, knowing the prices of coal, oil and labor, one experienced in the business can closely approximate the cost of water-gas. The residuals that are produced, namely, water-gas tar, can be used and are used in the production of water-gas as fuel under the boilers, and, with a knowledge of prices, he can compute what water-gas will cost. In the case of coal-gas, the same computation as to its probable cost can be made *if* one knows the prices that can be realized for the residuals of coke, tar, ammonia of various kinds and cyanogen. In water-gas manufacture, the materials used in the manufacture of gas are purchased, with little residuals to dispose of. In the manufacture of coal-gas, however, the materials for manufacture are purchased, but the residuals must be sold. The uncertainty of the prices which may be realized for coal-gas residuals renders it extremely difficult at times to determine the cost of coal-gas for any continuous period. During the year 1918, conditions were such that coal-gas cost considerably less than it did in 1919. In other words, the cost of water-gas manufacture can be determined with certainty, because the credit for residuals is a comparatively small element, while in the case of coal-gas, the probable realization for residuals introduces a very uncertain factor in the net cost (Record, pages 4717-4719).

During the war period, high prices were obtained for coal-gas residuals and the net cost of

coal-gas manufacture in 1918 was somewhat lower than water-gas manufacture, but, when the price for residuals went down and the price for bituminous coal went up, the relative cost of the two kinds of gas changed (Record, pages 5500-5501).

So far as the consumers are concerned, it is immaterial to them how the gas of a certain quality is made, because that quality can be attained through various means in the process of manufacture (Record, page 4719).

Another element to be considered is that the repair item for coal-gas is greater than it is for water-gas (Record, page 5500).

No comparison between the cost of production is fair which does not include the very important element of the greater cost of the necessary investment in coal-gas plants than the cost of the investment in water-gas plants.

Cost of Distribution and Other General Expenses.

As in the case of its allowances for the cost of manufacturing gas, both water-gas and coal-gas, the Court below pared the actual cost of distribution and other general expenses of the complainant unsparingly, following the testimony of defendants' witness, Dr. Weber. The complainant showed the actual cost for January to August, 1919, was 21.10 cents per thousand cubic feet, exclusive of taxes, renewals and replacements, and the cost as of October, 1919, was 23.30 cents per thousand. The Master allowed 20 cents per thousand on the basis of the approximate *average* of 1918 and 1919, taking into account the contentions by the defendants that a portion of the expenses should be allocated to non-gas investments. The

Court below, after *deducting* from the actual cost of distribution and general expenses the sum of $317,808 for the year 1918 and the sum of $215,542 for the eight months of 1919, thus yielding to the defendants' extreme contentions argued principally by their witness Dr. Weber, who, although the chief statistician of the Public Service Commission, was neither an accountant, an engineer nor had he ever been a practical operator or executive in the gas industry (Exhibit AA-465; Record, pages 19,122-19,124), allowed for the cost of distribution and other general expenses (exclusive of taxes, renewals and replacements) for 1918 $3,249,337.80, which, with the allowance for the maintenance of tunnels (of .44 cents per thousand) made the amount allowed for such expenses, per thousand cubic feet, 18.46 cents, and the Court allowed for the eight months of 1919 $2,370,309.96, which, with the same allowance for maintenance of tunnels, made the amount allowed by it, per thousand cubic feet, 19.78 cents.

How completely the Court below yielded to the unjustifiable contentions of the defendants, merely for the purpose of demonstrating that upon no hypothesis was the eighty-cent rate compensatory, is shown by the fact that Weber, with most violent assumptions and radical adjustments, in his computation of "Cost of Gas Distributed in the Year 1918", allowed for total expenses, including taxes, etc., 72.90 cents per thousand sold and derived a profit of 16.35 cents per thousand sold, as compared with Judge Hand's computation in his opinion of 69.08 cents per thousand for operating expenses and 18.13 cents per thousand available for profits for the same year 1918 (Record, page 182a). By the same process of "severe

treatment" of the complainant's expenditures and adhering closely to the appellants' own concessions, Judge Hand computed, for 1919, the operating expenses at 75.52 cents per thousand and the profit at 11.69 cents per thousand. To these paper "profits" he applied "a suppositious twenty billion spread" and found an irreducible minimum rate of return of 4.53% for 1918 and 2.92% for 1919 (Record, page 182a). Of course, there was no justification for the assumption of so large a spread of sales. But, he emphasized this, by stating in his opinion, that "It would be the height of injustice, if, in view of that attitude, its [the Court's] conclusions so reached were treated as a fair basis for fixing a new rate" (Record, page 183a).

The arguments now advanced in the defendants' briefs before this Court fail utterly to evince any grasp of the conspicuous fact about Judge Hand's decision that Judge Hand adhered closely to the evidence presented in behalf of the *appellants* and made every conceivable concession to their contentions, at times even going much further.

The following table sets forth a comparison of the cost of distribution and other general expenses, exclusive of taxes, renewals and replacements as claimed by the appellee, as allowed by the Master and as allowed by Judge Hand:

Comparative Table of Cost of Distribution and Other General Expenses (Exclusive of Taxes and Renewals and Replacements)

	Amount	Per M.C.F. Sold
Claimed by the Appellee		
1918 Actual, Ex. 364 (Rec., p. 16,626)	$3,567,145.80	$.1978
1919, Jan.-Aug., Actual, Ex. 365 (Rec., p. 16,630)	2,585,851.96	.2110
Nominal year ended Oct. 31, 1919, Ex. 387 (Rec., p. 16,880)	4,047,088.98	.2299
Present Cost as of Oct., 1919, Ex. 501 (Rec., p. 17,452)		.2330
Allowed by the Master		
Based on approximate average of 1918 and 1919 actual (Finding 59, Rec., pp. 37a, 56a-57a)		.20
Allowed by Judge Hand		
Based upon Exhibits 364 and 365 less certain deductions as follows:		
1918—Actual Cost per Ex. 364	$3,567,145.80	$.1978
Amounts deducted per schedule (Rec., pp. 162a-167a)	317,808.00	.0176
Balance	$3,249,337.80	$.1802
Plus maintenance of tunnels (Rec., p. 166a)		.0044
Amount allowed by Judge Hand (Rec., p. 182a)		$.1846
1919—Actual Cost per Ex. 365	$2,585,851.96	$.2110
Amounts deducted per schedule (Rec., pp. 162a-167a)	215,542.00	.0176
Balance	$2,370,309.96	$.1934
Plus maintenance of tunnels (Rec., p. 166a)		.0044
Amount allowed by Judge Hand (Rec., p. 182a)		$.1978

The following is a schedule of the *deductions* from the cost of distribution and other general expenses made by Judge Hand in arriving at his allowance for the cost of distribution:

Schedule of Deductions From Cost of Distribution and Other General Expenses Made by Judge Hand

	1918	Jan.-Aug. 1919
Repairs to Meters and Appliances		
10 per cent deduction made as covering an assumed profit to Standard Company	$29,322.00	$24,120.00
General Office Salaries		
One-third of Gen. Officers, Transfer, Acctg. and Cashier Depts.	77,122.00	53,837.00
General Office Supplies and Expenses		
Deduction in same ratio as G. O. Salaries	23,509.00	15,361.00
Legal Expenses		
In same ratio as G. O. Salaries	14,183.00	13,300.00
Insurance		
Interest Revenue from Insurance Participation Certificates, deducted from Cost of Distribution	17,148.00	17,481.00
Interest on Consumers Deposits		
Disallowed	40,905.00	33,601.00
Defensive Emergency Service		
Disallowed	100,251.00	11,654.00
Misc. General Expense		
Deduction made supposedly for Defensive Emergency Service	10,000.00	4,500.00
Gas Rate Appeal	.....	46,320.00
Less 10 per cent per year allowed*	*4,632.00	*4,632.00
Not identified	10,000.00	.....
Total amount deducted by Judge Hand	$317,808.00	$215,542.00

*Figures marked with asterisk are credits.

In other words, Judge Hand reduced three large items in the actual cost of distribution and other general expenses by one-third and one item by ten per cent., eliminated several large items altogether, and made other reductions. A comparison of Judge Hand's deductions with those *advocated* by Mr. Weber, the statistician of the defendant Public Service Commission, in Exhibit AA-465 (Record, pages 19,122-4) discloses an abandonment by the Court below of the complainant's actual expenditures to the defendants' extreme and unwarranted contentions.

Concerning the issue as to the amount to be

allowed for cost of distribution, etc., the Master in his opinion said (Record, pages 56a-57a):

> "Cost of distribution, which must be added, covers many items under the Uniform System of Accounts, not all of which are strictly distribution costs. The complainant company does a very large business in the sale and renting of gas appliances, and in that connection much publicity and promotion work must be done. The cost of doing this work is included in the cost of distribution. One of the items in the list of items making up cost of distribution (salaries, general office) led to considerable argument on the hearing before me. The complainant company, as I have already indicated, is not alone a manufacturing but a holding company. It owns capital stock and securities of a number of other companies. It is contended on the part of the defendants that at least one-third of the general officers' salaries should be deducted because these gentlemen devote their time not alone to the affairs of this particular company but to the affairs of the companies the stock of which is owned by the complainant company. The officers of the complainant company on the other hand insist that they take no active part in the operation of any of the other companies; that the other companies have their own executive officers; that if this company sold all of the securities which it owns of other companies their work would be precisely the same and the expense of running the company would be precisely the same. I was not able to agree entirely with the contention of counsel for the complainant in this regard nor am I able to agree entirely with the claim of the defendants that this and some other items should be reduced one-third. There are some items, too, like legal expense and entertainment expense, that are disputed. It is difficult to know just where to draw the line.

The entire cost of distribution in 1918 was 19.78 cents per thousand cubic feet of gas sold; for the first eight months of 1919, 21.10 cents; for the twelve months ended October 31, 1919, 22.09 cents.

"Counsel for the complainant company urges that I find the distribution cost, as of October, 1919, and the present time, to be not less than 23.30 cents per thousand cubic feet of gas sold. Messrs. Carter and Woods, while on the stand as witnesses for the complainant late in the trial before me, gave testimony and presented computations by which they reached the conclusion that under present rates of pay and the present prices of materials and supplies, the distribution cost of 21.10 cents in early 1919 has become at least 23.30 cents. It is of course true that the Distribution Department has enjoyed no immunity from the effects of the mounting costs of labor and material, and I am inclined to believe that these witnesses accurately stated a ratio or extent of increase in costs which has taken place in this department since 1918 and early 1919. Clerk hire has gone up; stationery costs more; salaries of other employees have gone up, and on the whole, I believe, if fair allowance be made for all of the items in dispute, that in the business of this complainant company all of the items included under the head of distribution cost cannot possibly be kept below twenty cents per thousand cubic feet, and in reaching my figures, I have taken that figure as the cost of distribution. I have refused to find as requested by counsel for the complainant, because, as indicated, I prefer to base my decision upon actual results of carrying on the business during periods for which complete figures are before me, with the additional statement that the cost today is substantially higher than it was in 1918 or the first eight months of 1919."

Judge Hand, in his opinion, pointed out that the distribution expenses were "made up from the books of the company, which I have already held to be good *prima facie* proof," and proceeded to examine *seriatim* the various items challenged by the defendants (Record, page 162a).

Repairs to Meters and Appliances.

In 1918, repairs to meters amounted to $211,667.92, and repairs to appliances to $110,871.68 (Exhibit 364, page 16,628), making a total of $322,539.60. As included in this sum Judge Hand assumed a profit of 10 per cent to the Standard Gas Light Company, a subsidiary of the complainant, and he, therefore, deducted $29,322 for 1918. For the eight months of 1919, the same items amounted to $175,225.15 for repairs to gas meters and $89,891.40 for repairs to gas appliances, or a total of $265,116.55, from which Judge Hand deducted $24,120 for an assumed profit of 10 per cent. Judge Hand said (Record, pages 162a-163a):

> "(a) *Repairs to meters and appliances.*—These are not done directly by the company but by the Standard Company, a subsidiary whose stock is owned by the plaintiff. They are billed to the plaintiff and all items are scrutinized and checked by one of its officials. Presumably the charges include a profit based upon the assumption that the companies are independent, for so the accounts read. In the case of mains and services the plaintiff does the work for the other companies and charged a profit of five per cent. I have not been able to find what the Standard's profit is on this work, but it is scarcely necessary in the case of so small an item. If I assume that the profit was ten per cent., as it is on the sales of gas between companies, there would result

> a deduction of twenty-nine thousand three hundred and twenty-two dollars for 1918 and twenty-four thousand one hundred and twenty-dollars for 1919. I shall so take it."

The deduction of the assumed profit to the Standard Gas Light Company was another instance of the extreme concession by the court below to the defendants. Mr. Teele, the accountant, prepared Exhibit 364 showing the figures for repairs to meters and gas appliances which the Court reduced; when interrogated concerning the inclusion in his figures of any profit to the Standard Company, he explicitly stated that he had not included such a profit. He testified that he and his staff had examined the books of the Standard Company, and further as follows (Record, pages 8,320-8,321):

> "Q. Are you familiar enough to state whether they have made a profit or not? A. My recollection is that there is no profit made on the repair work, that is done at cost.
>
> The Master: At any rate, you have not included that profit in your figures?
>
> The Witness: If there is any I have not included any such profit."

Repairs to Mains and Services

The items of repairs to mains and repairs to services amounted, for the year 1918, to $118,310.67 and $42,512.98, respectively, and for the eight months of 1919 to $77,098.89 and $26,860.15, respectively (Exhibit 364, Record, page 16,628; Exhibit 365, Record, page 16,632). As to those items the Court below held (Record, page 163a):

> "(b) *Repairs to mains and services.* These were done by the company for itself

and all other companies. No profits are included and the item should be taken as it reads."

Promotion Expenses for Gas Appliances and Gas Utilization.

The expense for promotion of the utilization of gas and gas appliances amounted for the year 1918 and eight months of 1919 to $206,074.90 and $142,559.95 respectively (Exhibits 205 and 355, Record, pages 16,338, 16,591). As to this important phase of the gas business, the Court below said (Record, page 163-a):

> (c) "*Promotion Expense for Gas Appliances,*
>
> (d) *and for Gas Utilization.* These items include the cost of maintaining these departments which the company organized some years ago to push the sale of gas and of machines to burn gas. Their propriety is challenged largely because the sales have not increased much. The truth appears to be that the constantly increasing use of electricity for illumination has driven out gas more and more until to hold its sales the plaintiff must promote the use of gas for heating and cooking. It has succeeded in a slight increase of sales and its officers attribute their ability to do even so well to these departments. I have no doubt that they are right, but whether right or wrong, their decision is not now open to question. They are under a duty to keep up their sales so far as they could, and to push the use of gas in any new ways which the public would use it. Even under municipal management advertisement, when not pushed to the useless extreme which competition too often engenders, is a necessary function.

> In its proper sense it means not the creation of a factitious demand by the familiar processes of repeated suggestion, but genuine information in such form as to reach the public."

The defendants' engineering witness, Little, at various times in cases in which he appeared, had strongly advocated active efforts by companies to extend their gas business by various methods, and had even criticised them for failing to exert this sufficiently (Record, pages 11,325, 11,326). He testified (Record, page 11,326):

> "Q. And you believe that a company should be very active in what you might term promotion and advertising of the use of gas? A. Yes, I believe proper advertising should be carried on, advertising of all kinds, demonstrations and newspaper advertisements particularly."

Mr. Carter, the Vice-President of the Consolidated Gas Company, described the organization and purposes of the utilization department of the company (Record, pages 8,361, 8,367). He testified "that the sales of gas * * * would not only not increase, * * * but would very substantially decrease, * * * if it was not for the intensive development of the use of gas for other than illuminating purposes" (Record, page 8,369). But for the exertions in securing the utilization of gas for new or additional purposes, the competition of electricity would have greatly reduced the sales of gas per consumer (Record, pages 8,369, 8,378). The effect of a diminution in the volume of the sales would be greatly to increase distributing expenses and taxes and the cost of carrying the investment expressed in terms of per thousand

cubic feet (Record, page 8,374). Unless, therefore, new uses for gas were developed by the company, the competition of electricity, particularly for lighting purposes, would have made great inroads in the gas sales and would have increased the cost of supply. Between 1908 and 1918 the complainant installed 527,152 appliances, at least sixty per cent. of the gas sold by the company being used or consumed through appliances (Record, pages 8,374-8,375). The complainant maintained a corps of experts who made 28,378 hotel and restaurant inspections, and during 1918 fifty women demonstrators, experts in domestic science, instructed 168,000 customers in the most up-to-date method of using domestic gas appliances (Record, pages 8,376-8,377). The company has for some years issued a monthly publication, known as "Gas Logic," which Mr. Livingston edits, among other duties performed by him. It is a convenient medium through which the company systematically and monthly disseminates information to customers as to the uses of gas and means for all utilization (Record, page 8,377). Of course, not the entire cost of this department is borne by the Consolidated Gas Company alone, but the cost is apportioned among the companies of the Consolidated system in the Boroughs of Manhattan and The Bronx and in Long Island City (Record, page 8,378).

The services of Mr. Livingston have been the subject of exaggerated and inaccurate statements in the briefs of the appellants. We invite a reading of Livingston's entire testimony *as a witness for the defendants.* For example, the evidence was to the effect that Livingston's principal business (Record, page 10,796 *et seq.*) was the editing of a monthly journal entitled "Gas Logic," print-

ed for circulation among the consumers of the Consolidated Company, designed principally to inform consumers respecting the most efficient types of domestic, commercial and industrial appliances and the various types of gas-ranges for domestic and commercial use. This paper contains hints as to the most efficient method of using gas for heating and lighting purposes, cooking recipes illustrated articles on gas subjects deemed interesting and instructive to consumers. This journal has a circulation of over 45,000 per month and is quite popular among gas users and is deemed by the company to serve a very useful purpose, amply justifying the expenses in publishing it, and this conclusion is the conclusion reached by the Master after hearing the testimony on the subject (Record, page 8,377).

There is not a word of testimony justifying the statement that Livingston had or has any sums at his command for publicity purposes. On the contrary it appeared that he *had not any sum whatever at his disposal, for any purpose, not even a petty cash fund.* The testimony was to the effect that the disbursements made directly by Livingston were for what are termed "Petty Cash Payments," such as stationery, telegrams, clippings, telephone service, towel service, postage stamps, newspapers, and things of that character. In lieu of "petty cash fund" provided by the company for these insignificant items, it appears that Livingston laid out his own moneys for these purposes and then sent to the company a voucher therefor in the regular form, attaching thereto the receipted bills from the towel supply company, telephone company, etc. When this voucher was approved and paid by the company, *his* receipted bills were returned to him, and later destroyed by him.

Appellants' counsel cited to the Court page 10,770 of the record as sustaining his claim that vouchers were destroyed (Appellant Swann's brief, page 36). *No company vouchers are destroyed, by Livingston or anyone else.* Pages 10,772 *et seq.* of the record show the nature of the *only* outlays he makes—only a few dollars in amount. The only bills or vouchers which he ever destroyed were the receipts obtained by him for such payments as these, which he deemed of no permanent value which justified their encumbering his files. *Livingston never paid any bills for advertising nor does he even pay the bills for the printing of the periodical which he edits.* They are all paid by the company direct. It was shown that Livingston's principal duties were the preparation of advertising matter in connection with the development of the use of gas and gas-appliances as they appear in the newspapers and trade publications. He writes the "ads." and sketches the illustrations and directs their preparation. Whatever circularizing is done in connection with the exploitation of any particular type of appliance is conducted under Livingston's supervision. He is, in fact, the advertising manager of the Consolidated Gas Company, one of the best "ad." men in the United States, rendering valuable services for which he receives but a moderate compensation, gauged by the rates paid for services of this character.

The statement that Livingston's publicity expenditures with destroyed vouchers represent a large portion of the expenditures of the Consolidated and its allied companies is an attempt to mislead the Court. The fact is that the expenditures made directly by Livingston would hardly

aggregate $5,000 per annum. How large a portion that sum represents of the upwards of $30,000,000 of expenditures made by the Consolidated and its allied companies it is not necessary to compute, newspaper and other advertising bills being paid, as stated, directly by the company and not by Livingston.

General Office Salaries and General Office Supplies and Expenses.

The amounts for these items shown in the accounts of the operating expenses of the complainant were as follows (Exhibit 364, Record, page 16,628; Exhibit 365, Record, page 16,632):

	1918	Eight Months of 1919
Salaries—General Office	$334,777.65	$239,250.78
Supplies and Expense—		
General Office.....	102,215.71	68,271.60

The Court below made a deduction from the expenses for general office salaries of one-third of the amount actually paid to general officers and to employees in the transfer, accounting and cashier departments, which deduction amounted to $77,122 for 1918 and $53,837 for the eight months of 1919, and also made a deduction from the expenses for general office supplies and expenses in the same ratio as general office salaries, which deduction amounted in 1918 to $23,509 and for the eight months of 1919 to $15,361.

This was a complete concession to the defendants of the suggestion made by Weber, defendants' witness, upon an arbitrary basis which he used in his Exhibit AA-465, of allocating this ex-

pense according to the ratio of revenues from the gas business and revenues from non-gas investments, to the total revenues, irrespective of the slight value of the service necessary in connection with the collection of revenues derived from non-gas investments. Weber had no other basis. Obviously, the expense of receiving the income from investments in State and Federal securities and in the bonds and stock of other companies, the latter companies having their own independent organizations and management and their own technical stations, cannot be proportionately as great as the general expenses in the management and supervision of the complainant's own gas business.

If the work in the general office consisted of nothing more than that involved in the fact that the company holds securities of its allied companies and obtains an income therefrom, there would remain no reason for retaining a solitary individual in the employ of the company in this department. The whole matter could be turned over to a bank or trust company which would be glad to perform the services for nothing, in exchange for the advantage of having the amounts collected included in its funds for ever so short a period.

So far as services for other companies are concerned the complainant, as was testified to by Mr. Brundage, Mr. Teele and Mr. Carter, charges these companies for the wages or salaries and the materials used in their behalf. As appears from Complainant's Exhibits 189 and 190, the operating repairs for 1918, and Complainant's Exhibits 272 and 273, the operating repairs for 1919, the Consolidated Gas Company for the year 1918 charged to affiliated companies for departmental

expenses and services of employees, the sum of $340,623.61, and for the first 8 months of 1919 the sum of $224,307.40, and for material and labor furnished during 1918, $194,997.78 and during the first 8 months of 1919, $152,473.00. There were also other charges for rental of jointly used facilities and contributions to employees' technical associations. These charges to the affiliated companies were deducted from the operating expenses of the complainant as shown in the exhibits placed in evidence by it in this case (Exhibit AA465, Record, pages 19,122, 13,747-13,796).

As to the services of the Consolidated Gas Company engineers and superintendents in connection with construction projects, as reflected in the accounts entitled "Engineering and Superintendence," "Engineers," "Blue Prints," "Drafting" and "Miscellaneous," charges are made against the associated companies prorating these charges and expenses between the Consolidated Company and its affiliated companies on the basis of the ratio of the total amount of such expenses to the total expenditures of all the companies for construction work, as reported in the Public Service Commission's report for the calendar year. This rate is applied to the construction expenditures of the individual companies, and invoices rendered annually. The amount charged to the affiliated companies in this category covering expenses incurred during 1918 is $39,202.42, the amount for the eight months of 1919 not being shown in evidence, because it was not billed until the beginning of 1920 (Exhibit No. 280, fol. 182).

Likewise the cost of maintaining the Department of Mains and Services, including General

Superintendents and Staff, General Office, Hester Street, 66th Street and 111th Street, Street Departments, including Automobile Expenses, Distribution of Supplies, Repairs, Tools, Implements and Buildings, the teaching of apprentices and the like, are charged to the affiliated companies on the ratio of each company's miles of mains against the total mileage of mains as of January 1st, invoices being rendered monthly. The amount charged to the affiliated companies for the year 1918 was $118,590.44 (Exhibits No. 188, 192, 193, 194).

Likewise all of the various expenses of maintaining the Promotion Department, including the Gas Appliance Department, the various kinds of advertising, the Utilization Department, and the Automobile Expenses of the above departments, are pro-rated between the Consolidated Gas Company and the affiliated companies on the basis of the ratio of the gas sales of each company to the total during the previous year, invoices being rendered monthly. The amount charged to the affiliated companies in 1918 was $62,893.82 (Exhibits No. 188, 192, 193, 194).

The cost of maintaining the Department of Claims and Arrears is charged to the affiliated companies on the ratio of each company's active meters on the district to the total number of active meters as of January 1, these charges, including both legal and clerical expenses in connection with that department and the services of collectors employed in making collections (Exhibits No. 188, 192, 193, 194).

On a somewhat similar equitable basis the cost of operating the Lighting Division of the Commercial Department is pro-rated. The cost of

maintaining pressure gauges at various locations, the cost of operating the 63rd Street Gas Storage Station, the cost of operating the Kingsbridge and Astoria Stations, expenses incurred in the maintenance of the office of Mr. Livingston, the net expenses incurred in the maintenance and operation of the general office restaurant, the expense of maintaining the meter shop, school of instruction, the expenses incurred in connection with pumping drips, the expenses incurred in maintaining the 111th Street Dispensary, the expenses in connection with the various societies of gas employees and the like are distributed between the companies, the amount received by the Consolidated Gas Company from its affiliated companies as a contribution towards the cost of departmental expenses and services of employees during 1918 and the eight months of 1919 being $528,931.01 (Exhibits No. 188, 192, 193, 194).

Necessarily, all of these gross expenses would have been as large if the Consolidated Gas Company were carrying on its business alone and there were no affiliated companies. For example, when an advertisement is inserted in a daily newspaper its size and substance are no doubt substantially the same as though it were inserted solely in behalf of the Consolidated Gas Company. The fact that the Consolidated Gas Company is able to bill to other companies about one-half of the cost of the insertion of such an advertisement reduces the advertising expenses of the Consolidated Gas Company and procures for it better advertising results for less money.

The record contains no contradictions of the declarations by Mr. Cortelyou, Mr. Carter and others that if the Consolidated Gas Company held none of the securities of the affiliated companies

and had no organic relations with them whatever, its expenses, so far as concerns the general office, salaries, legal expenses and the like, would be greater rather than smaller than they are under existing conditions.

Each of the companies affiliated with the Consolidated Company has its own general office and its own complete official and general office staff. Such relations as exist between the officials of these companies is obviously not to the advantage of one any more than to the others. In other words, in so far as the conduct and management and promotion of the gas business is concerned, the officials of each company benefit by the experience and observation of all of the others. Far from being an expense to the Consolidated Company such contact and such exchange of views and experience and information between its officials and the officials of the allied companies is a direct and palpable advantage to the company.

A deduction of an amount exceeding that proposed to be made by Weber, and subsequently made by the Court below, had *already* been made in the accounts of the complainant and the exhibits introduced by Teele by way of a distribution of the total expenditures of the Consolidated Gas Company among the associated companies, and no reasonable basis appeared for making the further reduction which the Court below made in pursuance of the rule of severity against the complainant.

Nevertheless, the Court below deducted from the actual expenditures for salaries and supplies of the general office one-third of the amount charged for general officers, transfer, accounting and cashier departments, and general office supplies and expenses, saying (Record, pages 163a-164a):

"(e) *Salaries and* (f) *Supplies at General Office.* The salaries of the general officers should be apportioned as the Master recognized and the defendants claim, but it is very hard to find any satisfactory theory on which to allocate them. Obviously it is impossible to learn what part of his time each officer gave to gas or "non-gas" business. The method suggested of dividing in accordance with the income has few advantages except that it is an intelligible theory and has at least some relation to the facts. I shall adopt it, but only because *I am taking all doubts against the plaintiff.* The same applies to the Transfer, Accounting and Cashier's Departments. In the Engineering, Commercial, Purchasing and Chemical departments there can be no ground for any allocation at all. All this work presumably went for gas manufacture, and so much of it as was expended for other companies appears to have been charged against them in the books. Mr. Woods did not apparently keep exact track of his time but the portion of his salary to be allocated is very trifling. I shall accept those items.

"The rest of the charge it is hopeless to attempt exactly to apportion. I shall assume that it was shared between all the foregoing departments in the proportion of their salary accounts, and I shall deduct one-third of that part attributable to the General Offices, Transfer, Accounting and Cashier's departments. The result of this, as I make it, is seventy-seven thousand one hundred and twenty-two dollars for 1918 and fifty-three thousand eight hundred and thirty-seven dollars for 1919.

"(f) *General Office Supplies and Expenses.* I apportion these, very roughly it is true, by deducting that percentage of the whole which the deduction from the preceding item bears to the whole item;

that is, I deduct twenty-three thousand five hundred and nine dollars for 1918 and fifteen thousand three hundred and sixty-one dollars for 1919."

Charges to United States for Officers' Services.

Concerning the defendants' contentions as to this item, the Court below said (Record, page 164a):

"g.) *Charges to United States for Officers' Services.* This item does not appear on Exhibits 364 and 365, from which I calculate the cost of distribution. I need not consider it."

Legal Expenses.

The charges for legal expenses, apart from those due to the rate case, were for 1918 $42,551.18, and for the eight months of 1919 $40,000 (Exhibits 363-365, pages 16,628-16,632).

The Court below deducted one-third of these expenses, or $14,183 in 1918 and $13,300 for the eight months of 1919, again following the theory of the defendants' witness Weber that these expenses should be allocated according to the ratio of revenue from the gas business and from non-gas investments to the total revenue, irrespective of the actual facts as to the services rendered. The Court said (Record, page 164a):

"h.) *Legal Expenses.* I think these should follow general officers' salaries. I deduct fourteen thousand one hundred and eighty-three dollars for 1918 and thirteen thousand three hundred dollars for 1919."

Insurance.

There is an insurance fund which was established for the purpose of insuring the properties of the Consolidated Gas company and other gas companies that contribute to the fund held by the trustees, and these companies have certificates for their respective shares in the fund. Interest is paid upon the face value of these certificates. As the participation certificates represent investments similar to those in stocks or bonds which the companies might own in insurance or other corporations, the interest earned by these certificates was treated by Teele, the accountant, in his schedules of revenues and expenses, as investments in non-gas properties (Record, pages 8321-2).

The insurance rate charged by the trustees of the fund was shown to be lower than the rate at which similar insurance could have been secured from outside companies (Record, pages 6068-6069, 8683, 8684).

The interest on these participation certificates, although in the category of return upon outside investments, the Court below nevertheless deducted from the cost of insurance, saying (Record, page 164a):

> "i.) *Insurance.* The insurance item covers not only some property not used in the gas business, but the Fourteenth Street and Forty-second Street plants, which, as will appear, I am eliminating from the "rate-base." These items should come out and the means of adjusting the item on that basis has not been pointed out. The defendants claim a deduction based upon the income which has been earned by the insurance funds and upon the insurance partici-

pation certificates. These certificates are issued to the plaintiff merely as evidence of the surplus in any year of the premiums over losses. It does not appear that subsequent premiums may be paid by their redelivery, but possibly this is true.

"In view of the fact that the insurance premiums include property not used for gas purposes, I think I should accept the defendants' demand on this item, seventeen thousand one hundred and forty-eight dollars for 1918, seventeen thousand four hundred and eighty-one dollars for 1919."

Mutual Aid Society and Superannuation.

We respectfully submit that the views expressed by the Court below upon these items of expenditure are incontrovertible. The Court said (Record, pages 164a-165a):

"j.) *Mutual Aid Society;* (k) *Superannuation.* Under these two items are charged those payments, now very common among large corporations, by which the employees receive insurance for sickness or distress or a pension when aged. There can be no question of their propriety in substance, nor can I, with deference, agree with *Kings Co. Lighting Co. vs. Lewis,* 110 Misc. 204, 230, that the charges may not be made during the years when the disability existed. The method to be adopted is fairly open to the discretion of the officers and in the end it makes very little difference how it is distributed among consumers. The question is whether it is in fact paid and represents a reasonable amount.

"In the latter question the Master peremptorily shut off any inquiry in the case of superannuation. He assumed that the discretion of the officers was not subject to review, and in this he was in error, because if that discretion had been wanton

or extravagant beyond reason it could not stand. However, all the details were contained in certain bundles of papers which the defendants themselves put in evidence and which showed what each allowance had been and to whom made—at least so I understand, though the exhibits have not been submitted here. I cannot see that the cross examination which the Master stopped could have added anything of substance. The officers examined would scarcely have admitted that they considered the allowances too great, and the only available proof would have been by showing that in other companies such allowances were so much smaller than those actually allowed as to make them extravagant. This the defendants did not offer to show and no doubt could not. I do not think, therefore, that the Master's erroneous ruling should throw out this item."

Automobiles.

The use of and need for the passenger automobiles owned by the complainant company was testified to by several witnesses, and we direct attention to the testimony of Carter, the Vice-President of the company, particularly at Record, pages 8805-8810. He testified that the cars were maintained "as a kind of taxi service" for the use of executive and administrative officials and the heads of the department of the general office for whatsoever purpose they may be required. The vehicles are required for getting to branch offices, stations, plants, or to some point in the district for some specific purpose, investigating some report, trouble or complaint over the vast territory served by the complainant. The essential question with the company is time saving, and the time saved by the use of the automobiles has paid

for them a good many times over (Record, page 8808). But five per cent. of the automobile expenses relate to the general office passenger service (Record, page 8809). With the exception of the seven cars devoted to the executive officers and heads of general office departments and others at the general office, the automobiles are used for general trucking and commercial purposes in connection with the operating departments (Record, page 8809). The details of the operation of the automobile or garage department, the expenses therein, the minute accounts and records kept, and the use and expenses of the operation of automobiles, were fully gone into by Addicks, Vice-President of the Consolidated Gas Company, who had general charge of the department, and by Middleworth, the superintendent of the department (Record, pages 12,898, 13,121).

Upon the contentions concerning this phase of the company's operations, the Court below said (Record, page 165-A):

> "l.) *Automobiles.* The plaintiff uses twenty passenger cars in its business, of which seven are detailed for the use of its officers. The point was raised that this number was too many and the superintendent in charge of the department was called by the defendants apparently to establish the point. The resulting examination really goes very little into that issue and was directed for the most part to the method in which the accounts were kept. The Master allowed very few questions upon that, and of this the defendants complain. I cannot see that the examination shut off was of any consequence upon the relevant issue; at least the defendants stated no reason to

the Master justifying his so supposing.

"As to the necessity of having seven cars, I will rule here as elsewhere, in the absence of some evidence showing that they were unnecessary, or that the officers abused their powers by using them for personal purposes, that their judgment must stand *prima facie*. As in analogous situations, given the discretion, its exercise must be shown to have been injudicious. I allow the item."

Interest on Consumers' Deposits

The complainant is required by statute (N .Y. Transportation Corporations Law, Sec. 63), to pay interest on deposits received from consumers. These deposits are not advance payments for gas, as suggested in the appellants' briefs, but are in the nature of a security or pledge for the payment of future bills, and are returned to the consumer when service is discontinued. The paring of operating costs should not have been extended by the Court to payments required by law. If these payments of interest are not proper operating charges, then the Court should have eliminated from Miscellaneous Operating Revenue the interest received on bank balances, which was included in complainant's schedules in evidence. However, the Court below left in Miscellaneous Operating Revenue the interest received by the complainant on bank deposits, but eliminated from its allowances of operating expenses the amount charged for interest on consumers' deposits, saying (Rec. pages 165A-166A):

"m.) *Interest on Consumers' Deposits.* In whatever way figured, it seems clear that this is in no sense a proper item in the cost of distributing gas to the consumer.

> I am not trying to learn what were the revenues of the company in the past, but to establish a basis for the cost of distribution in the period to be covered by a decree. I disallow this item, forty thousand nine hundred and five dollars for 1918, thirty-three thousand six hundred and one dollars for 1919."

Defensive Emergency Service.

By reason of the wide-spread dangers which would flow from any sudden or violent interruption of the operation of gas plants in the City of New York, the complainant company, in 1918 and to a lesser extent in 1919, maintained an "emergency defensive service" to protect the property from attack and the operations from interference. The actual expenditures for this purpose the Court below eliminated from consideration for the purposes of testing the rate. The Court would have been well justified in acting upon the principle which was recognized by Honorable Charles E. Hughes, sitting as a Referee to hear and determine, in the case of the *Brooklyn Borough Gas Company vs. Public Service Commission*, 17 N. Y. State Dept. Rep. 81, 113-114, in which he granted judgment for the gas company enjoining the enforcement against it of the statute here under review, of "the necessity of recognizing the *actual costs* of operation even though abnormal."

However, the Court below held (Record, page 166-A):

> "n.) *Defensive Emergency Service.* This was certainly an exceptional expense caused by the troubled period of the war. It offers no just basis of inference for the costs of distribution in the future. I dis-

allow the item, one hundred thousand two hundred and fifty-one dollars for 1918, eleven thousand six hundred and fifty-four dollars for 1919."

Miscellaneous General Expenses.

The Court below made a deduction from this item of $10,000, saying (Record, page 166-A):

"o.) *Miscellaneous General Expenses.* Under this heading the defendants challenge a number of items, which are too many and too small to deserve much notice. All of them are proper enough on their face except the general item of "Miscellaneous Expenses," twenty-seven thousand two hundred and eighty dollars for 1918 and eight thousand six hundred and fifty-four dollars for 1919. In 1918 about nine thousand dollars seems to have been connected with emergency defense. I will deduct ten thousand dollars in 1918 and in 1919 forty-five hundred dollars, two-thirds of what apparently represented Kenney's Emergency Defense services in 1919.

In 1919 there is an item of forty-six thousand three hundred and twenty dollars which comprises the expenses of this litigation. It can hardly be considered a normal charge for each year, and should be spread. I may assume one such suit in ten years. As we have two years to consider I will deduct forty-one thousand six hundred and eighty-eight dollars from 1919 and add four thousand six hundred and thirty-two to 1918."

Rate-Case Expenses.

The Master eliminated from the complainant's operating expenses the moderate outlay for accounting, legal and engineering services in conducting the present suit. This item amounted in 1919 to 0.544 cents per thousand cubic feet of gas sold. Judge Hand, however, following the rule laid down by the Honorable Charles E. Hughes as Referee in the case of *Brooklyn Borough Gas Co. vs. Public Service Commission*, 17 N. Y. State Dept. Rep., 81, ruled that the expense should be spread over a period of years. But, he did not pursue the ruling to the same extent as that followed by Ex-Justice Hughes who held that the balance not charged to the year's operating expenses should be charged to capital account upon which a return should be allowed and which should be amortized over a brief period.

We respectfully submit that the reasonable expenses of obtaining relief from a confiscatory rate imposed by public authority are a proper charge to the operating expenses of the complainant. No case has been cited in which the expenses of a public utility company in obtaining relief in a court of equity from a statute found by that court to be confiscatory, have been excluded from the computation of the operating expenses which the utility is entitled to have its rate adequate to meet.

The rule has been laid down by State Commissions in some cases that where proceedings have been brought before the Commission to compel a reduction in rate, and the proof developed upon the hearings establishes that the existing rates are excessive and that the company has derived excess profit over a fair return during the period of the

litigation, that the company is then not entitled to have the expenses incurred in connection with the rate hearing before the Commission allowed as a part of its operating expenses for that and future years. On the other hand, where the rates under review are found to be inadequate or no more than fair, and where it does not appear that the company has been earning a profit over a fair return during the period of litigation, the rate expenses are allowed as a part of the operating expenses.

No reported case excludes rate litigation expenses from operating expenses where such expenses were incurred by a company in successfully attacking as unconstitutional the rate to which it has been subjected by legislative authority. If the legislature has imposed upon the company an inadequate, oppressive and confiscatory rate, the expenses of getting rid of that limitation is an expense which becomes a part of the operating expenses of the company, to be borne by its consumers, and which need not be defrayed out of the moneys otherwise distributable as dividends.

The correct rule with respect to rate expenses in the present litigation we conceive to be this: if in the judgment of the Court, this company has successfully established the confiscatory character of the eighty cent rate, it is entitled to have its expenses in the litigation included in the operating expenses in computing the amount which it will have to earn, in this year and years immediately coming, in order to meet all operating expenses. If it is the judgment of the Court that the company has not maintained its contentions in this action, then of course the expenses of the unwarranted rate litigation should be borne by the stockholders of the company themselves.

In some instances the courts and the State Commissions have required that the expenses of a rate litigation in which the company has been successful should not be incorporated wholly into the operating expenses for the year or years in which the litigation took place, but should be distributed over a period of two, three, four or five years, according to the relationship which their amount bears to the total operating expenses of the company, and the effect which their inclusion in any one or more years would have upon the cost of the service to the company's consumers.

Among the decisions on this subject are:

Brooklyn Borough Gas Company vs. Public Service Commission (opinion of Charles E. Hughes, Referee), 17 N. Y. State Dept. Rep., 81; P. U. R. 1918 F, page 358.

Re Peoria Company (Illinois), P. U. R. 1918 E, 74, page 90.

Knowlton vs. Farmington Village (Maine), P. U. R. 1918 E, pages 884-891.

Re Indianapolis Water Co. (Indiana), P. U. R. 1917 E, 556, 624.

Re Colorado Springs Light, Heat & Power Co. (Colorado), P. U. R. 1917 F, 385-411.

Re Hydro-Electric Light & Power Co. (Indiana), P. U. R. 1918 A, 325-334.

Re Nunn vs. Sutter-Butte Canal Co. (California), P. U. R. 1918 E, 563, 588.

Re Bluefield vs. Bluefield Water Co. (West Virginia), P. U. R. 1919 A, 790.

Re Home Telephone Company (Indiana), P. U. R. 1919 C, 209.
Re Champaign Water Co. (Illinois), P. U. R. 1919 E, 798.
Re Capital Telephone Co. (Missouri), P. U. R. 1919 E, 592.

Uncollectible Bills

It is contended by the appellants (Appellant Newton's brief, pages 81, 83; Appellant Swann's brief, page 272), that the amount charged by the complainant in the operating expenses for gas bills which it has been unable to collect, should not be allowed as an item of operating expense. The appellant Swann says in his brief (page 273), that Judge Hand in making no reference to the items "probably acted upon the assumption that they were not challenged by the defendants."

In fact, these items were *not* challenged by the defendants. Dr. Weber, the defendants' witness, in Defendants' Exhibit AA465 (Record, pages 19,122, 19,124) in which he annihilated a large part of the complainant's operating expense, particularly under the head of distribution and other general expenses, himself included, as one of the items which he allowed, "Uncollectible gas bills, $95,330.22."

The index of the Public Service Commission's Uniform System of Accounts for Gas Corporations (Complainant's Ex. 15, Record, page 15,961) places the item of "uncollectible bills" right after the item of "taxes" and before revenues (Record, page 16,030), and provides (Record, page 16,017):

> "19. *Uncollectible Bills*—For uncollectible gas bills the following account is provided:

(6870.) *Uncollectible Gas Bills*
When, after a reasonably diligent effort to collect, any account stated for gas sold has proved impracticable of collection, it shall be charged to this account and credited to the account receivable in which theretofore charged."

Every recognized accounting procedure for ascertaining net income sanctions the inclusion of bad debts in operating losses, and the income tax laws invariably provide for it.

It is argued that, by Section 63 of the Transportation Corporations Law of the State of New York, the complainant is authorized to collect from consumers a deposit, and in that way the complainant may protect itself from loss. The amount of deposit which may be exacted is restricted to "a reasonable sum of money according to the number and size of lights used or required, or proposed to be used" (N. Y. Trans. Corps. Law, Sec. 63). Most of the cases of loss through uncollectible bills are due to the fact that the deposit exacted has proved to be insufficient for the quantity of gas subsequently consumed. The losses due to uncollectible bills are inherent in the gas and electric business, certainly in Greater New York, and no company has yet found a positive way of preventing them without incurring greater expense than the amount lost.

The fact that it did not occur to Dr. Weber that this item should be disallowed, and the further fact that the Public Service Commission clearly contemplates such losses as incidental to the conduct of the business, completely refute the appellants' contention.

Cost of Distribution Stated in Terms of Cents per Thousand Cubic Feet of Gas Sold

The Court below, in re-stating the cost of distribution as allowed by it in terms of cents per thousand cubic feet of gas sold for purposes of comparison with the rate of eighty cents per unit, said (Record, page 166a):

> "The sum of these deductions is as follows: For 1918, three hundred and seventeen thousand eight hundred and eight dollars, and for 1919, two hundred and fifteen thousand five hundred and forty-two dollars. The total costs of distribution for 1918 were therefore three million two hundred and forty-nine thousand three hundred and thirty-seven dollars, and for the first eight months of 1919 two million three hundred and seventy thousand three hundred and nine dollars. *The rate per thousand cubic feet for 1918 was $.1802 and for 1919, $.1934.* A question arises as to this item whether the spread should be taken at the actual production during the years in question or at the supposed production in the future, say twenty billions. A few of the constituent factors, like repairs to mains, would seem to be pretty certainly constant whatever the production. The greater part of them, however, will vary generally with the amount of business done and *in view of the severe treatment which I have given to many of them* it seems to me only fair to take the spread at the actual output. There can be little doubt that at any prices now in sight the sum allowed is inadequate."

Although the Court expressed the view, in the foregoing excerpt, that the spread should be taken at the actual output, yet, when the Court came to calculate the possible profits under operating expenses within the limits of which the complainant could not possibly function, it applied a supposi-

titious spread of twenty billions (Record, page 182a), and so arrived at available profits in amount and rate greatly in excess of that which could have been realized with the actual sales.

Expense of Maintaining Facilities for Transmission of Gas from Astoria.

The ruthlessly pared production costs which were taken by the Court below were derived from the operations of the manufacturing plants at Astoria, in the Borough of Queens. The gas sold by the complainant went to its consumers located across the East River in the Borough of Manhattan. Obviously, the cost of transmitting the gas produced at Astoria to the locality of distribution becomes an indispensible element in the service rendered to the complainant's consumers.

The Court below said (Record, pages 166a-167a):

> "(p) *Maintenance of Conduits from Astoria.* Connected with the subject of distribution costs is the expense of keeping up the conduits from Astoria.
>
> "There are two tunnels running between Long Island and New York, one called the 'Astoria Tunnel,' from the Astoria plant to the Bronx, which costs $5,178,614.58; the other further south and from the New Amsterdam Company's plant to Manhattan, and called the 'Ravenswood Tunnel.' These are each used to conduct gas from the Astoria plant to the plaintiff's mains, the plaintiff being the sole consumer of Astoria gas. The lower or Ravenswood tunnel is used to convey coal gas which has been enriched by oil at Ravenswood; it is small and cost seven hundred thousand dollars. How-

ever, to reach it the gas must pass through mains on Long Island valued at $844,422.71. All these conduits are formally owned by the East River Gas Company and are used by others than the Astoria Company. The several corporations have adopted a figure of fifty-seven plus per cent. as representing the plaintiff's proper share of these conduits based upon their relative requirements. They have also adopted somewhat arbitrarily the figure of three and a half per cent. as proper for the renewals and repairs necessary for upkeep, the figure being taken from calculations made by the company's engineers by an average over a number of years. There was no apparent motive in fixing it at that amount, except a desire for an honest apportionment of charges between them, even though it were for bookkeeping purposes. Had the defendants wished to meet this proof the actual vouchers were available for them to do so. The estimate under the circumstances seems enough to make a *prima facie* case, but *against any possibility of error* I will take it at only two per cent.

However, it appears to me a closer estimate not to take the full valuation of the Astoria tunnel and leave out the Ravenswood and the connecting lines. It is better to treat the whole system of conduits between Astoria and New York as one and to take a percentage of the whole. Past experience indicates fifty-seven per cent. plus, but I shall give my reasons in considering the 'rate-base' for taking it higher and allowing four million four hundred thousand dollars as the proper allocation. At two per cent. the repairs figure eighty-eight thousand dollars, which on a spread of twenty billions, which it is proper to take on this item, is $.0044. With the other distribution cost the total is $.1846 for 1918 and $.1978 for 1919."

The amount of $.0044 thus allowed by the Court below was less than half of what the Master found to be reasonable and proper for this item. The Master found (Record, pages 54a-55a):

> "Another item which must be added to the cost of gas sold is the expense of maintaining the Astoria tunnel. As I have already pointed out the complainant company was practically forced to go to Long Island City to make its gas, and is therefore compelled to use a tunnel to convey gas to Manhattan. That tunnel is under water, requires a great deal of care and attention and constant repairs, with the necessary materials and labor. Based on the charge made by the Astoria Company for the year 1919, the cost of maintaining the tunnel is one cent per thousand cubic feet sold."

The amount taken by the Master as the cost of maintenance of the Astoria tunnel was the amount actually paid, as shown by the vouchers in evidence as well as by the books. The amount so paid was in turn based upon the computation of the company's engineers as to the annual carrying cost of the tunnel (excluding interest at 6 per cent. on the cost thereof) to cover "taxes, maintenance, repairs and renewals" (Record, page 3,287). The tax rate being about 2½ per cent., this left 3½ per cent. to cover maintenance, repairs and renewals. Three and one-half per cent. on the cost of the tunnel ($5,178,614.58) amounts to slightly more than $181,000, or about one cent a thousand on the sales of the Consolidated Company for the nominal year ended October 31, 1919—the Master's figure simply represents this actual annual payment, expressed in terms of cents per thousand cubic feet of gas sold by the complainant. If gas can be made slightly

more economically and advantageously at Astoria, the cost of maintaining the tunnel which brings it to Manhattan becomes a necessary and proper charge.

While repairs are likely to run more or less uniformly, the cost of the renewal and replacement of property is less uniform and is likely to amount to a very substantial sum whenever renewals and replacements become necessary and are made. The cost of repairs, repainting, pumping, watchmen, etc., for a given year furnish, therefore, no criterion of the average annual cost of maintenance, including renewals and replacements. In this connection Mr. Woods stated:

> "These expenses would vary. You take it from year to year, they may be very heavy one year and very slight another year. This estimate was based upon what was believed in my judgment to be a fair charge covering those items" (Record, page 14,847).

The figure of $.0044 was taken by the Court in order to guard "*against any* possibility of error" —another example of the "severe treatment" which the Court accorded to the actual operating expenses.

Renewals and Replacements and Taxes

To the amount allowed by the Court for production and distribution of gas, should of course be added the cost of taxes, discussed under Point VI, *post*, and of "Renewals and Replacements," discussed at length in connection with Points XVI and XVII, *post*.

Loss to Complainant Due to Selling Gas to the City of New York at the Statutory Rate of Seventy-five Cents per Thousand Cubic Feet, as Fixed by Chapter 736 of the Laws of 1905.

The rate prescribed by Chapter 125 of the Laws of 1906, here involved, is eighty cents per thousand cubic feet of gas sold to private consumers. By Chapter 736 of the Laws of 1905, the Legislature of the State of New York fixed a maximum rate for gas furnished and supplied to the City of New York at seventy-five cents per thousand cubic feet. Out of a total gas sales in 1918 of 18,029,245,000 cubic feet, the complainant sold to the City of New York 117,454,600 cubic feet; and out of a total sales in the first eight months of 1919 of 12,253,567,100, complainant sold to the City of New York 69,556,600 cubic feet of gas—the sale to the City being equal to a minor fraction of the total sales. By reason of the sale of gas to the City of New York at the statutory rate of seventy-five cents per thousand, the income from the sales of gas was, in 1918, 79.90 cents per thousand, and for the first eight months of 1919, 79.91 cents per thousand, as compared with the statutory rate to private consumers of eighty cents per thousand (Exhibits 205, 355, 364, 365, Record, pages 16,338, 16,591, 16,626 and 16,630).

In the prior suit of the Consolidated Gas Company (212 U. S., 19) both the eighty-cent rate for general consumers and the seventy-five cent rate for the municipality were attacked by the company. The Supreme Court (212 U. S. 19, 54) refused to consider separately the seventy-five cent rate or to annul that rate because seventy-five cents would be a confiscatory rate if applied gen-

erally. Separately considered, the seventy-five cent rate was confiscatory, but the test of the confiscatory effects of the eighty-cent rate was based by the Court upon the combined revenues of all gas sold as contrasted with the combined expenses of making and selling all of the gas sold, and upon the return on all of the property.

The same view was adopted and acted upon by ex-Justice Hughes as referee in the Brooklyn Borough Gas Company (17 N. Y. State Dept. Reports, 114), where the gas sold to the City amounted to four per cent. of the company's total sales. The distinguished referee found the eighty-cent rate and ninety-five cent rate both unremunerative, but nevertheless, upheld the seventy-five cent rate for gas furnished to the municipality. He tested the eighty cent rate and the ninety-five-cent rate by comparing the company's total revenues, including that from gas sold to the City, with the company's total expenses, and figured the return on the whole investment. While sustaining the complaint as to the rate applicable to private consumers, he dismissed it as to the rate applicable to the municipal service, basing his decision upon the authority of *Willcox vs. Consolidated Gas Company,* 212 U. S. 19, 54, and *Northern Pacific Railway Company vs. North Dakota,* 236 U. S., 585, 601 (17 State Dep. Rep., 114).

Gas Purchased by the Complainant from Affiliated Gas Companies—Manufacturing Plant of Other Companies Devoted to the Complainant

Appellants have carried into their briefs before this Court the discussion of an issue which was litigated before the Special Master, relative to the price paid by the Consolidated Gas Company for

gas purchased by it from affiliated gas companies, but which has since become academic by reason of the fact that, in pursuance of a method of paring the complainant's costs unsparingly in order to reduce them to an incontrovertible minimum, the Master and the Court avoided the manufacturing costs of the affiliated gas companies which furnished gas to the complainant and the price paid by the complainant for such gas based on such costs to the producing company and adopted as a standard the low manufacturing costs at Astoria, taking for coal-gas the lowest cost of the two coal-gas plants there.

Likewise, by computing the return upon plant capacity and facilities necessary for the Consolidated Gas Company's gas requirements, the Master and the Court eliminated from consideration in the operating expenses the issue as to the payments made by the Consolidated Gas Company for the use of plant capacity and certain other property devoted to its use by other companies.

We, therefore, regard a discussion of these issues before this Court, as supererogatory. However, in view of the fact that defendants have laid emphasis upon this phase in their briefs, we venture to comment briefly upon the subject.

As to the station cost of gas supplied to the Consolidated Company by its affiliated Companies, it should not be overlooked that the Consolidated Company is not only able to and does check, in the greatest possible detail, the cost of the gas thus supplied, but it actually controls the price paid by these Companies for materials entering into the cost of gas, including coal and gas-oil, and the rates paid for labor.

It is impossible to obtain uniformity in the cost of manufacture as between the stations of Com plainant or of its affiliated Companies, nor is it possible to obtain uniformly better results at one station than at another station. In other words the cost of manufacture varies between the stations, due to circumstances and conditions beyond the control of the operating department. These variations are due to differences in the qualities of materials employed, in the efficiency of labor and in the efficiency of apparatus, which is not always uniform.

Even between the three eight-hour shifts operating during a given twenty-four hours at any given plant, there will be variations in the results obtained from the labor and materials employed, whether such results be expressed in terms of units per thousand cubic feet of gas produced or in terms of quantity of gas produced per unit of labor and material employed, which will affect the cost per thousand cubic feet of gas manufactured to a greater or less extent.

It must not be forgotten that the prices paid other companies for gas (except the Astoria Light, Heat and Power Company), is the cost to those companies in the particular month, or months, in which the balance of gas transferred ran against the complainant company, the cost in such month or months not necessarily conforming to the average annual cost of the Company supplying the gas. It cannot, therefore, be assumed that had the Consolidated Company manufactured this gas at its own stations it would have cost any less than it cost the companies from which the supply was obtained.

The Consolidated Company did not have to avail itself of the New York Mutual surplus plant until the winter of 1917-1918. During the war period it could hardly have constructed manufacturing plant at any price. In that winter it used about 4,601,000 cubic feet of Mutual plant capacity. In the winter of 1918-1919 it needed 10,686,000 cubic feet of capacity. The Mutual Company let the Consolidated have this on the basis of the pre-war cost of such plant capacity. In view of these circumstances the Consolidated Company could hardly have negotiated with the Mutual Company (of which the Consolidated Company has but a bare majority stock control) on the basis of paying for gas it got from that company its station cost only in the event of its being lower than the Consolidated Company's own cost. The Mutual Company has had to use a little more oil than the Consolidated Company in order to maintain its candle-power. In fact its situation is just the reverse of 99th Street, which is able to meet the statutory requirements on the district by using a smaller quantity of oil than 21st Street has to use. These are conditions, between stations, which are unavoidable, and the Consolidated Company would be in a bad position if, in case of necessity, it could not pay the Mutual Company the production cost, at the Mutual plant, of the gas it required.

It does not follow necessarily that, having entered into an agreement with the New York Mutual Company for the use of its manufacturing plant to the extent of 10,686,000 cubic feet, in order that it should have sufficient capacity to carry it through the period of maximum winter demand, it should make any greater use of this manufacturing plant than is necessary at other

times during the year, to meet the requirements at such times. Unlike the situation in respect to the 21st and 99th Street Stations, which, as a matter of policy, would be kept in operation throughout the entire year, it was not necessary that the Consolidated Company should use any of the Mutual Company's plant during the "off-peak" season. The plant, of course, had to be operated throughout the year by the Mutual Company to the extent that was necessary in order to meet the demands of its own customers. It was not necessary that that part contracted for by the Consolidated Company should be operated in its behalf throughout the year, uniformly or otherwise, nor was the Consolidated Company compelled by the terms of the agreement to make any greater use of the plant, or take any more gas from the Mutual Company, than was necessary during the winter season. To the extent, of course, that the company did not need and did not call upon the plant for which it paid, it remained idle precisely the same as it would have done had the Consolidated Company owned it. It fell then within the category of property rented by the year which the lessor occupies as pleasure, convenience or necessity dictates—he pays for it, however, whether he occupies it continuously or not. It is obvious that to the extent that the Consolidated Company utilized the plant of the Mutual Company, by having gas manufactured for it during the off-peak period, a corresponding portion of its own plant would have to be put out of commission. There is no necessary relationship, therefore, between the quantity of gas supplied by the Mutual Company to the Consolidated Company and the annual charge of $219,837.74 paid for the use of a part of the Mutual Company's plant, such charge including, of course, interest, taxes, insurance and renewals.

The point which we desire to emphasize is that, as a practical matter of conducting the complainant's business, no single plant or part of a plant which is carried by the Consolidated Company can be considered apart from the rest of the plant which it carries. If, as we believe, it has been incontrovertibly shown that, in carrying only 104,186,000 cubic feet of manufacturing plant capacity, or all that it could command, with a maximum day's output of 99,243,000 cubic feet (Record, page 14,882) the Consolidated Company was really *short* of capacity, then the question as to what extent any particular plant or part of a plant was operated in order to supply the demand of the customers of the Consolidated Company during the off-peak and summer period, is of academic interest in this case.

So far as the operating results of the Consolidated Company for the years 1918 and 1919 are concerned, for opposing counsel to suggest that for the purposes of this case or the prior case the officers of the Consolidated Company or any one of them would give instructions to the station superintendents to be passed on by them to the men in the three operating shifts to the effect that they should so operate their machines as to impair their efficiency and that they should seek to obtain something less than the best possible operating results from the use of the materials employed in the manufacture of gas is as monstrous as it is absurd and grotesque. It is not an argument. It is only a gratuitous insult to the intelligence of the men who are administering the affairs of the gas company—and incidentally it is a revelation of the mental attitude which reflected it.

Operating Costs as of January, 1920

In contrast with the *lower* figures found by the Special Master as of early 1919, basing his manufacturing costs on early 1919 results at Astoria alone, and those found by the Court below as of the same time basing its manufacturing costs on early 1919 results at Plants A and C only, the record permitted the making up of a detailed statement of the cost to make and distribute gas, in the territory served by the complainant, nominally as of *January, 1920,* but actually as of October, 1919, except for the fact that the record reflects part of the increases which have since taken place in the price of gas oil, gas coal, etc. The defendants' refusal to permit prices to be proved of a date later than October, 1919 (Record, page 14,-257), shows clearly enough that later prices were at least no lower than those previously incorporated in the record. On the basis of the proofs in the record, the indications were that as of March, 1920, the costs of labor, anthracite and gas coal, gas-oil, cast iron pipe, and other elements in the cost of manufacture and distribution, were *substantially above* the unit prices underlying this computation.

Judge Hand, in fixing in the decree of August 4, 1920, a rate pending appeal of $1.20 per thousand cubic feet of gas (Record, page 185a) allowed the elements shown in the following table:

TABLE SHOWING THE ELEMENTS OF THE $1.20 GAS RATE UNDER COSTS AS FOUND BY HAND, D. J., ON BASIS OF 1918 AND 1919 OPERATIONS

	Per M cu. ft. sold
Cost of Production	56.00c
Cost of Distribution	23.00c
Renewals and Replacements	3.50c
Taxes	9.00c
Total cost at time covered by Judge Hand's decision	91.50c
Credit miscellaneous operating revenue	7.30c
Total cost at that time, after giving effect to miscellaneous operating revenue	84.20c
Required for return of 8 per cent on investment of $4.05 as found by Hand, D. J.	32.43c
Federal income tax based on 8 per cent return on investment	3.37c
Rate required on basis of foregoing and hence fixed by Hand, D. J., at $1.20	$1.20.00

The details of the cost of production and cost of distribution, as thus computed from the evidence in the record, the quantities of materials and labor being those to which the witness Woods testified and the prices being taken from evidence in the record as to current prices as of early in 1920, are set forth in Appendix A of this brief (pages 490 to 492, *post*).

POINT III

THE APPELLEE COMPANY WAS PROVED TO PAY LESS FOR GAS OIL THAN THE OTHER COMPANIES IN THIS TERRITORY PAY, AND TO RECEIVE A SUPERIOR AND MORE DEPENDABLE SERVICE.

At various times during the trial and in portions of their briefs in this Court, counsel for the appellants have laid emphasis on a few gas-oil contracts obtained at various times, mostly years ago, by other gas companies in New York City, at prices lower than those being paid by the Consolidated Gas Company at or about the time such lower contracts were made.

That such lower-priced contracts of local companies, and of companies in Boston, Philadelphia and in New Jersey cities were not made at or about the time the Consolidated contracts for oil for the period were entered into; that such contracts were usually or often for oil of a quality inferior to that received by the Consolidated; that the companies making such contracts sometimes found themselves harassed by slow deliveries or even deprived of deliveries at all and compelled to obtain oil elsewhere, while the Consolidated supply has never failed in quantity, quality or promptness; that these contracts of other companies have been for quantities of oil so small as to be readily storable in available tanks in the outlying portions of the city, in which these smaller companies have their plants; and that the terms of the contracts gave the gas companies little or no control over the rate of delivery of oil, while the Consolidated contracts contain terms which save the company nearly one cent per gallon as the annual cost of investment in tanks and storage facilities, evidently meant nothing to the impracticable or malevolent minds of defendants'

counsel. They stressed the contracts of other New York City companies, in no way affiliated or identified with the Consolidated Company, such other companies receiving nearly one-half of the gas-oil coming into New York City.

It likewise meant nothing to the appellants that in 1920, at the time of the final decree herein, the complainant was paying less for its gas oil than any other company in New York City, only half what some companies in no way affiliated with the complainant or the Standard Oil Company of New Jersey were paying for oil, and that the complainant's 1920 and 1919 operating costs were based on these low costs of oil (Exhibit 487; Record, Case No. 288, page 10 *et seq.*).

But even as to the defendants' delving into ancient history, the crushing and conclusive answer came when all the oil contracts of all the companies, from 1904 to the end of 1919, were in evidence as Exhibit 487, and the contract prices could be compiled therefrom and compared. *Then it was found that the complainant had paid less, on the average, as its contract prices for gas oil, than all the other companies had contracted to pay for the gas oil received by them!* The complainant had received better oil service for less money.

The price at which contracts for gas oil can be made vary with the oil company, the time when a new contract has to be made, the price of crude oil and of gasolene, etc., at that time, and the quantity of gas oil the oil company has on hand or believes it will have on hand during the earlier months of the contract period. At one time one company may give a little better price than an-

other, but it is impracticable to shift from one oil company to another perennially. Those who try it find themselves caught, in a time of shortage, with no vendor feeling any particular obligation to supply them, *e. g.*, the Kings County Lighting Company and the New York and Richmond Gas Company, as narrated in the testimony of Mr. Elsmann (Record, pages 10,269-75), Mr. Higgins (Record, pages 10,183-10,252), and Mr. Welsh (pages 10,281-85). It is by the average of results that the real test is found, not in a comparison of particular contracts made by different oil companies at different times (Exhibit 487).

During both 1918 and 1919, the appellee's contract was at a lower price per gallon than the weighted average contract price of all the gas oil contracted for by the other New York City companies, those not in any way affiliated with the Consolidated, for those same years.

From January 1, 1910, to the end of 1919, the Consolidated paid an average of 4.24 cents per gallon; all other companies, outside the Consolidated group, paid an average of 4.39 cents, a difference of 0.15 cents per gallon in favor of the Consolidated, a saving of $1,500,000 on the Consolidated contract quantities during the ten years.

Even going back to 1904, and covering the period to the end of 1919, the Consolidated paid an average of 4.19 cents per gallon, and all other companies, outside the Consolidated group, paid an average of 4.42 cents, a saving of .23 cents per gallon or $3,137,200 on the Consolidated contract quantities during the period.

In point of fact, the average price actually paid by the appellee was even lower than that obtained

by averaging the contract prices and quantities as shown on Exhibit 487. As appears from the oil contracts and from Exhibit 326, the Consolidated contracts for some years specified two different grades of oil and so two prices—one grade corresponding to that specified in contracts of other companies and one grade of higher quality and with a price correspondingly higher than that specified in the Consolidated contract for the lower grade. The above figures are made up on the basis that all of the oil of both qualities was taken by the complainant, up to the contract limit of quantity for each quality. This gives the average price of 4.24 cents for the past ten years and 4.19 cents for the period since 1904.

In fact, however, the Consolidated did not take the full quantities of the higher-priced oil it had the right to call for. As appears from Exhibit 326, during the past ten years the oil which it did take cost an average of only 4 cents per gallon, as compared with the average of 4.39 for other New York City companies; and from 1904 to the end of 1919, the average price of the oil actually taken by the Consolidated was 4.072 cents, as compared with an average of 4.42 cents for all other companies. The oil contracts of the other companies did not contain any such provisions for two grades of oil and quantities appurtenant thereto.

These simple facts, readily calculable from the oil contracts or from Exhibits 487 and 326, dispose of the appellants' contentions more completely than would any elaboration of argument. The unique and fortunate position of the complainant as to its 1920 oil, as to price, quantity, quality, and assurance of supply throughout the year at a low price, stood in sharp contrast to the

plight of most of the companies referred to by the defendants. If the appellee in 1920, at the time of the decree herein, had been paying the price then obtaining for gas oil, such as other companies were paying, its cost of manufacture would have been at least 30 cents more per thousand cubic feet of gas sold.

The Prices Paid for Gas Oil in Boston, Philadelphia and New Jersey

The appellants have placed great stress on certain contracts for gas-oil, made by the Boston Company, by the Public Service Gas Corporation of New Jersey, and by the Philadelphia Company. As to these, the facts shown by the record are:

(1) The Boston contract referred to by the defendants was for only a part of the Boston company's requirements, so that the Boston company had to buy the rest of its oil elsewhere, and had to pay for it much more than the appellee was paying; and

(2) That the Gulf Refining Company failed to deliver to the Philadelphia company and the Public Service Gas Corporation of New Jersey more than 80% of their contract quantity, so that these companies had to buy or procure oil elsewhere and pay much more than the appellee was paying, bringing their total oil cost per gallon above the price being paid by the appellee.

As to all three of these oil contracts, the appellee, as appears from a comparison of Exhibit 487, was getting oil during a substantial portion of

their duration at less than the figures specified in these contracts. Before they expired, the appellee's contract expired, and had to be renewed at a higher price, just as these other contracts, when they expired had to be renewed at a higher price, both these companies paying substantially twice the price paid by the appellee under its contract not yet expired.

The contract of the Boston and Consolidated Gas Company was proved in evidence through the testimony of Dana A. Barnum, its vice-president and chief engineer. Mr. Barnum testified (Record, page 11,082) that this contract was not for the quantity required by his company in the year 1918 or the year 1919; that in the oil year 1919 his company had to buy about three million gallons in excess of its contract for a partial supply from the Gulf Refining Company; that the larger part of this additional supply in 1918 and 1919 they bought from the same oil company but had to pay 8¾ cents per gallon therefor (Record, page 11,802); that for the further quantity required they had to pay the Tidewater Oil Company 9 and 9½ cents per gallon (Record, pages 11,083-11,084); that as to oil delivered up to March 31, 1920, in excess of the amount procurable under this contract for partial suply, Mr. Barnum's company had a contract for this extra oil at 7½ cents per gallon (Record, page 11,084). Moreover, Mr. Barnum testified (Record, page 11,078) that "this 1916 contract for fourteen million gallons per year related to two different kinds and qualities of oil at two different prices"; that the contract gave the Gulf Refining Company the right to deliver a higher priced oil if its supply of "Red River Crude" became inadequate to take care of the contract requirements; that the

Boston and Consolidated Company was unable to get the Gulf Refining Company to deliver any of the lower priced oil (Record, page 11,079), sa that the prices cited by the defendants were of no avail to the Boston company; that the price quoted was for delivery from tank ships, with a still higher price required to be paid for barge delivery (Record, page 11,080). Mr. Barnum, moreover, produced the originals of the agreements between his company and the Gulf Refining Company (Exhibits 462, 463, 464) which confirmed that during 1918 and 1919 and 1920 the Consolidated contract has been from one to four cents below the market price.

As to the contract of the Equitable Gas Light Company of Philadelphia and the Public Service Gas Corporation of New Jersey, with the Gulf Refining Company, the Attorney-General uses the artful statement of one of the sales managers of the Gulf Refining Company to the effect that they had not broken their contract with the Philadelphia or New Jersey companies. These contracts were proved in evidence by the defendants through the testimony of J. A. Pearson, the purchasing agent for gas oil for both the Philadelphia companies and the Public Service Gas Corporation. At page 9120 of the record, Mr. Pearson was asked as follows:

"*Cross examination by Mr. Ransom:*

"Q. Mr. Pearson, during the period of this 5-year contract were you obliged to purchase oil from any other sourse?

A. Yes.

Q. During one or more years of that period, did the Gulf Refining Company fail to deliver the contract quantity?

* * * * * * * *

A. No, they did not deliver all the oil.

By the Master:

Q. That is rather an ambiguous answer to that question.

A. Let me get it again.

Did they fail?

A. *They did fail, yes.*

By Mr. Ransom:

Q. From what other companies did you then buy oil?

A. From what other oil companies?

Q. Yes.

A. From the Atlantic Refining Company, from a concern in Oklahoma, who shipped oil by train, and I cannot remember the names of the other companies.

Q. Did you have to buy it in the open market?

A. Yes.

Q. Wherever you could get it?

A. Oh, yes, it was bought in the open market."

At page 10,257 of the record, Mr. Pearson testified that the Gulf Refining Company failed by 25,000,000 gallons to deliver the full amount on the two contracts for Philadelphia, and the failure on the Public Service Gas Corporation contract represented nearly the same percentage of non-delivery. Mr. Pearson further testified (Record, pages 10,258-10,259):

"Q. During this period of non-delivery by the Gulf Refining Company you had to go into the open market and buy oil?

Mr. Chambers: I object to that as incompetent, irrelevant and immaterial.

The Master: Objection overruled.

Mr. Chamber: Exception.

A. The prices were between 6½ cents and 9½ cents.

Q. You bought from a number of companies at prices of 8 cents and higher?

A. Between 6½ and 9½ cents.

The Master: Was the greater percentage of this merchandise that you bought in the open market delivered at 6½ cents or nearer to 9½ cents?

The Witness: It was nearer to 9½ cents.

The Master: Most of it ran much higher?

The Witness: Yes, sir."

* * * * * * * *

The Master: Would 8 cents be a fair average for all of it?

The Witness: I think so, I think 8 cents would be about the average figure."

Mr. Pearson also testified (Record, pages 10,260 and following) to gas oil prices in New York State ranging from 8 cents upward to 9.26 cents and that it was impossible to get the companies to make contracts for longer than six months.

The whole testimony of Mr. Barnum and Mr. Pearson, *witnesses for the defendants*, is well worth reading for the light which s thrown upon the gas oil question. Their testimony completely refutes the contentions made by the appellants on the basis of the Boston and Philadelphia contracts with which Messrs. Barnum and Pearson were respectively identified.

The oil and coal contracts and oil and coal prices of the appellee and other gas companies have been exhaustively litigated, in State and Federal Courts, before many judicial officers, and before various State Commissions. All the pertinent facts have been fully inquired into, with all

the atmosphere of suspicion and harangue spread into the record. The significant fact which survives, however, is this:

> *Despite all these trials and all these inquiries, no Court and no Commission has ever found that this appellee ever paid a fraction of a penny too much per gallon for oil or per ton of coal, or ever made an oil or coal contract unwise or improvident under the circumstances obtaining at the time such contract was made.*

POINT IV

THE COMPLAINANT'S BOOKS OF ACCOUNT, SOME OFFERED BY THE APPELLEE (COMPLAINANT BELOW), AND OTHERS OFFERED BY THE APPELLANTS (DEFENDANTS BELOW), WERE PROPERLY ADMITTED IN EVIDENCE.

The contention made in behalf of the appellants (Brief for appellant Swann, Point IV, pages 154-231; Brief for appellant Newton, Point XVI, pages 311-345) that the books were improperly admitted in evidence, is unique in Federal cases which involve the constitutionality of rate regulations. For many years, equity suits have been brought in the Federal Courts to restrain the enforcement of rates fixed by legislative authority, and the procedure as well as the modes of proof came to be regarded as well established. The first suit brought by the Consolidated Gas Company to test the constitutionality of the 80-cent rate statute went through every stage of litigation from the filing of a bill of complaint through the granting of a temporary injunction, the reference of the issues to a special master, the hearings before the special master, the final hearing before the Circuit Court, and finally the appeal to the United States Supreme Court (*Consolidated Gas Co. vs. Mayer*, 146 Fed. 150; *Consolidated Gas Co. vs. City of New York*, 157 Fed. 849; *Willcox vs. Consolidated Gas Co.*, 212 U. S., 19). It seemed proper to assume, therefore, that the precedents set in the first suit, which do not vary from those set in similar suits, concerning the method of proving revenues and expenditures, constituted a safe guide for the conduct of the trial in the present suit.

Not only did the complainant below follow upon this trial the accepted methods of proof of revenues and expenditures which prevailed in rate cases brought in the Federal Courts, but, in order to obviate the indiscriminate, captious and obstructive objections interposed by the defendants, the complainant went very much further in establishing the integrity of its records of revenues and expenditures; and the complainant has been subjected to this tremendous burden, notwithstanding that since July 1, 1907, it has been under the plenary supervision of the Public Service Commission of the State of New York in respect to its accounts, records, properties, service, rates and capitalization, the only limitation upon the delegated powers being as to an *increase* in rates in excess of the statutory rate. If the books of account and records of the complainant are not dependable because of the claimed insufficiency of proof to sustain their reliability as records of the transactions recorded therein, why did the defendants draw so largely upon the same books of account and records in their effort to secure findings of fact to support their defenses? The defendants themselves offered in evidence numerous books of account and records of the complainant and its departments, and the annual reports made by the complainant and affiliated gas companies to the Public Service Commission of the State of New York for the First District and to other public authorities. The defendants' accountants and engineers also prepared tabulations and summaries which closely paralleled those offered in evidence in behalf of the complainant and were taken from books of account offered in evidence by the defendants themselves, as well as by the complainant. The defendants, by building their

case so largely upon evidence from the books of account and records of the complainant (some of which were offered by the complainant and others by the defendants), would seem to have destroyed any vestige of ground for claim that the books were not properly admitted. If they were not, the great mass of evidence presented by the defendants was inadmissible.

The books, records, vouchers, and properties of the complainant and of its affiliated gas companies were thrown open to the defendants and their accounting representatives, with every facility of minute examination and inspection, over many months, as hereinafter shown in detail. It is a significant, if not singular, circumstance that not one of the numerous accountants called as witnesses in behalf of the defendants, who had made extensive examinations and analyses of the books of account, in anywise impeached its books or records as reliable registers of the details of the transactions in its gas business.

Upon the question of the admissibility of the books of account the District Court below, after referring in its opinion to the facts above stated, said (Record, pages 149-a-151-a):

> "Books kept in accordance with orders lawfully promulgated by the commission under such powers are on a different footing in a suit based upon the action of the State and against its officers, from even the same books if attempted to be used elsewhere. They have a public character derived from the supervision which can be and is exercised over them. The authorities are not of course bound by them in any event, but prepared as they are, under their direct and constant supervision, they can scarcely

be put in the category of the usual *ex parte* entries about whose admission the cases are concerned. The State having had so much hand in their creation and such continuous power of examining them, should not be entitled to demand a verification first-hand of every item by common-law proof, before they become *prima facie* competent. The guaranty of their truth is sufficiently established by the scrutiny to which they are always subject, and the penalties which follow upon a disregard of the Commission's orders (Section Seventy-three). It would indeed be an incredible burden to require every item to be separately established and even these defendants have not gone so far as that. But if the books are not *prima facie* competent they might call for such proof, nor can I reject them without putting the company upon their mercy.

"Documents prepared in an analogous fashion came before the court in *Rowland vs. St. Louis, etc., Co.*, 244 U. S. 106, 108, and *Northern Pac. Ry. vs. Keyes*, 91 Fed. R. 47, 58. In each the court received them, though prepared in disregard of the strict rules of the common-law, because of the opportunity afforded the authorities to check their accuracy by a recourse to the original records and if necessary to the entrants who actually made them. In neither case did it appear that the company was under such stringent supervision as has been established in New York. Here, as in *Rowland vs. St. Louis, etc., Co. supra*, it may be said that the company 'exhibited its work-sheets and data to the (defendants), that the returns were made by the employees in the course of their business, and that if the (defendants) had desired to question any of the data they could have called for further verification.'

> "Nor, indeed, were these books admitted until Teele had made a thorough checking of all the items by their vouchers for the period of a month or more, submitting them in this way to an honest test of their accuracy. *The 'purely negative attitude' of the defendants is not consonant with that desire 'not to seek an unjust advantage from the difficulties of stating the company's case,' which we are told must be imputed to a State in such affairs, Rowland vs. St. Louis, etc., Co., supra.*"

The Special Master's own ruling on the general question of the admissibility of the books of account was not made until after most patient and exhaustive consideration of the arguments and memoranda submitted by counsel for the respective parties (Rec. pp. 1455, 1507, 1535, 1687, 1694, 1777, 1806, 1852, 2043).

In view of the inconsistency, as we shall point out, in the various objections to the admissibility of the complainant's books of account made by the appellants before the Special Master, before the Court below, and before this Court, it is respectfully submitted that the grounds of objection here to be considered should be limited to those specified in the appellants' assignment of error relating directly to the ruling of the Court below that the books of account were properly admitted.

The appellants' assignment of error in this Court is based *only* upon the grounds that

> "the books were not books of original entry; that *the* one who made the entries therein was not produced and their accuracy proven or his death or unavoidable absence established: and exception '14' to

> the Master's finding '18' should have been sustained for *such* reasons" (Rec. p. 209-a).

Exception No. 14 of the Appellants' Bill of Exceptions to the Master's Finding No. 18, referred to in the foregoing assignment of error, does not rest upon "*such* reasons" as are given in the instant assignment of error. After noting an exception to the Master's Finding No. 18 on the *general* ground "that the same is not supported by the evidence, is contrary to the evidence and has no evidence tending to support it" (a ground which has been repeatedly held to be too general to warrant examination by the reviewing Court), the exception further states (Record, pages 76-a, 77-a):

> "whereas, said master should have found that the books of complainant company *as well as the books of the Astoria Light, Heat and Power Company*, are not kept in conformity with the rules and regulations of the Public Service Commission; that the books were not properly proven; that *no person* who made an entry therein was called as a witness; that the books were not the books of original entry and were improperly admitted in evidence; that by the admission in evidence of the books the defendants were denied the right of cross-examination; and that in admitting improperly the books of the company common law proof was dispensed with, and the defendants deprived of a fair trial." (Italics ours.)

The complainant's exhibits specified in the appellants' assignment of error were the following:

> *Exhibits 188 to 200 and 204*, comprising Sundry Debtors Blotter; Operating Ledger; Operating Journal; Creditors Ledger;

Debtors Ledger; Invoices Approved by Executive Committee; Treasurer's Cash Book and Payroll Summary, for the year 1918 (Rec. pp. 1893, 1954; for cross examination as to, see List of Exhibits, Part A, pp. 9 to 11).

Exhibits 260 to 273, comprising Operating Ledgers from 1906 to 1919, inclusive (Rec. pp. 2871, 2910; for cross examination as to, see List of Exhibits, Part A, pp. 14-15).

Exhibits 275 to 280, comprising Operating Journal; Treasurer's Cash Book; Invoices Approved; Sundry Creditors Ledger; Payroll Summaries and Sundry Debtors Blotter (Record, pages 2910, 1911).

(1) *The admission in evidence of the Astoria books of account and records was upon the appellants' offer, and not upon the appellee's offer.*

The appellants contend that the Master erred, not alone in the admission in evidence of the books of the complainant Consolidated Gas Company, but also in the admission of the books of the *Astoria Light, Heat and Power Company* (Rec. p. 77-a) notwithstanding the fact that appellants, and not the appellee, placed in evidence the Astoria books of account, manufacturing records and supporting data (Rec. p. 11,297). The Astoria books and records, as well as summaries therefrom (Defts. Exs. AA-309, AA-310), were offered in evidence by the appellants in support of their contention before the Master that he ought to make his findings on the basis of the cost at the Astroia plant, "that plant being a most efficient manufacturing station, with modern labor-saving devices," rather than on the basis of the results in the Consolidated Gas Company's plants

alone, or of the combined results in all of the plants making the gas sold to the Consolidated Company's consumers. On this point the Master said (Rec. p. 52-a):

> "Having in mind that the plaintiff *must prove* its case beyond any reasonable doubt, I reached the conclusion that the safest basis upon which to work was the actual results of operations in the Astoria Plant for the eight months ended August 31, 1919, that plant being a most efficient manufacturing plant, with modern labor-saving devices. The Astoria books of account, manufacturing records and supporting data for this period were placed in evidence by the defendants as a part of their case, and were tabulated and analyzed by the defendants' accountants, as well as by the representatives of the complainant in rebuttal."

The Master thus took the course *least favorable to the appellee*, and reached a figure below the operating costs in the Consolidated plants in the Borough of Manhattan. The appellee believes that the Special Master ought to have taken the cost figure produced by the operating results in *all plants*. But the appellants certainly have no cause to complain because the Special Master in first instance, and the District Judge later, adopted their theory of the case and derived his figures as to the amount to be allowed as manufacturing cost from the appellants' exhibits, rather than from the books and records of the appellee.

(2) *The admission, upon the appellants' offer, of the Astoria books of account and records as binding upon the complainant, furnishes ad-*

litional ground for the admission in evidence of the complainant's other books of account and vouchers.

The books of the Astoria Light, Heat and Power Company were offered in evidence by the *defendants below* (Record, page 11,297) not only because they showed manufacturing costs, under conditions not paralelled at other plants, which were lower than the manufacturing costs at the complainant's 21st Street and 99th Street stations and the manufacturing costs at *all* stations from which the supply of gas to complainant's consumers was derived, but also because, under the defendants' contention that the Astoria Company was "merely another department of the Consolidated Company" (Record, page 13,765; fol. 41,294), the records of the Astoria Company became admissible as "admissions against interest."

After the defendants had placed in evidence the books of account and records of the Astoria Company and also summaries therefrom with adjustments compiled by their accountant, Sangster (Record, page 11,690), the complainant introduced schedules from the same records prepared by its accountant Teele (Record, page 14,755). The importance of having the Astoria records in evidence from the viewpoint of the defendants is shown by the following summary of the claims and findings as to the amount to be allowed as the cost of producing gas:

Cost of Production—January to August, 1919

Claimed by Complainant—Actual (Ex. 365, Rec., p. 16,631)	Found by Master (Rec., p. 52-A)		Per Judge Hand's Opinion (Rec., p. 161-A)	
67.74c*	Coal Gas Plants A & B (Ex. 486, Teele)	.4731	Plant A (Sangster)	.4155
	Water Gas Plant C (Ex. 486, Teele)	.4575	Plant C (Sangster) less deduction—	.4384
	Mixed Gas (22 per cent C. G & 78 per cent W. G.)	.4609		.4334
	Gas Storage (Ex. 364)	.0100		....
	Cost of Production based on gas made	.4709		.4334
	Unaccounted for allowed	7 per ct.		4.1 per ct.
	Cost of Production based on gas sold	.5063		.4519

* Includes cost of taxes, renewals, etc., and interest on investment on property owned by others devoted to manufacturing gas for the use of the Consolidated Gas Company.

Upon such a theory, the defendants having introduced in evidence a portion of the books of account and the supporting records of the Astoria plant as a "department" of the complainant's business, the books of account and underlying records of the complainant bearing upon the same subject—that is, the costs of operation—were properly received in evidence. Had there been any error originally in the admission of the books and records of the complainant (and we are confident none was committed), that error was overcome by the defendants in offering in evidence not only the books and records of the Astoria Company upon the theory that the Astoria plant was the complainant's plant and the Astoria Company's books were the complainant's books, but also *transcripts* from the books and records of the complainant relating to revenues, expenses, and property, thereby rendering the books themselves admissible.

(3) *Numerous exhibits introduced by the defendants below, constituting a large portion of the evidence offered by them in support of their contentions and defenses, are founded upon the books of account and records of the complainant and its affiliated gas companies.*

The epitome of the accounts of the complainant, covering its "Revenues and Expenses", is the "General Ledger." The General Ledger is a summary of the operating ledger, which in turn is supported by the subsidiary books of account, records, and vouchers, of the complainant. This General Ledger was offered in evidence by the complainant, and upon the defendants' objection, was excluded by the Master (Record, pages 3181-3182). At the request of the defendants, the book was marked in evidence as defendants' "Exhibit V" for identification (Record, pages 3182-3183). Although this book was never received in evidence as an exhibit, and is not one of the supporting books or records of the books of account placed in evidence by the complainant, nevertheless the defendants placed in evidence, over the objection of the complainant, an exhibit marked Defendants' "Exhibit AA-129", entitled "Details of Accounts in Operating Expenses, 1906 to 1918", purporting to be a transcript from the General Ledger (Rec. pages 10,402-10,403). Obviously, the admission in evidence of defendants' Exhibit AA-129, transcribing from the General Ledger the accounts included in Operating Expenses from 1906 to 1918, rendered admissible the books and records which led up to the General Ledger.

The offer by the appellants, and the consequent admission in evidence, of numerous books of account, records, vouchers, data and reports of the

appellee and its affiliated gas companies, and summaries therefrom, completely vitiate any ground of objection by the appellants to the offers by the appellee of its books of account and the schedules and summaries therefrom.

The reports of the complainant and its affiliated gas companies to the regulatory and taxing authorities, etc., offered in evidence by the defendants below, were based principally upon the complainant's accounting records. For example, the annual report of the Consolidated Gas Company to the Commission for the year 1918, which is typical of the other annual reports of the appellee and its affiliated gas companies, contained a verification by the reporting officer, the form of which is prescribed in the report:

> "that the sources of his information and the grounds of his belief as to the truth of the several matters not hereby stated to be verified upon his knowledge are as follows:
>
> • • •
>
> "The data obtained and compiled by the accounting department of the respondent from the voluminous books and records of the various departments of the respondent and your affiant believes the said data to be in exact accord with the following books and records:
>
> Stockholders Minute Book
> Bills and Statements from Creditor Companies
> Record of Contracts
> Sundry Debtors Ledger
> General Ledger
> Operating Ledger
> Sundry Creditors Ledger
> Sundry Consumers Ledger
> Sundry Creditors Bills

Annual Inventories
Treasurers Record of Securities Owned
Newspaper Quotations
Record of Deposits Issued and Received Branch Offices
Record of Uncollectible Bills and Deposits and Interest. Branch Offices
Record of Gas Sales
Tax Bills
Annual Report to the State Board of Tax Commissioners
Record from Station Superintendents
Street Department records of Mains and Services
Reports from Superintendents of Fitting and Repairing Shops
Reports from Branch Office Superintendents
Reports from the Superintendent of the Gas Appliance Department
Reports from the Bureau of Claims for Damages
Original Pay Rolls."

It was from such books of account and records and the annual reports based thereon, that the appellants drew so largely the voluminous schedules and exhibits, covering every conceivable phase of the complainant's operations and properties, placed in evidence through their witnesses, Frank, an accountant; Weber, chief of the Bureau of Statistics and Accounts of the Public Service Commission; Goldthwaite and Pyle, engineers with stronger proclivities for accounting than for engineering; Gottlieb, self-described as "economist and statistician"; Hine, an engineer; Maltbie, a public utility "consultant"; Mylott, an accountant; Silverman, an accountant and Sangster, an accountant.

Thus, the appellants (defendants below) offered in evidence the following exhibits, among others:

AA-129, prepared by Frank, an accountant: entitled "Consolidated Gas Company of New York. Details of Accounts including Operating Expenses. 1906-1918 (*From Company's Ledgers*)" (Rec., pp. 10,404, 18083-18089).

The details of the operating expenses given in this exhibit are most exhaustive.

AA-130, Frank's table: entitled "Consolidated Gas Company of New York, Cost of Repairs, 1906-1918, *compiled from operating ledgers* • • • Summary of Repair Accounts, 1906-1918 (*From Company's Ledgers*)" (Rec., pp. 10,406, 18091-18099).

AA-131, Frank's table: entitled "Consolidated Gas Company of New York, Cost of Production and Storage of Gas at each Station, 1906-1918 • • • (*From Operating Ledger*)" (Rec., pp. 10,407, 18101-18125).

AA-131½, Frank's table: entitled "Statement showing the Distribution by Years of the Profits and Loss Adjustments affecting Operating Expenses" (Rec., pp. 12464, 18127).

AA-244, Prepared by Weber, Chief of the Bureau of Statistics and Accounts, Public Service Commission, entitled "Consolidated Gas Company of New York, Financial Results of Gas Business conducted in the name of the Company in the ten years from 1909 to 1918, as disclosed in its annual reports to the Public Service Commission" (Rec., pp. 10,952, 18239-18241).

AA-20, AA-21, AA-22, AA-23, Coal Vouchers for the years 1918 and 1919, 99th Street and 21st Street Stations (Rec., pp. 6812, 6813, 17514).

AA-38, AA-39, Monthly Reports for Computation of Gas Transferred, 1919, 1918 (Rec., pp. 8716, 17619, 17641).

AA-48, Copies of Resolutions of Executive Committee, Relating to the Purchase of Coal, Oil and other Supplies (Rec., pp. 12909, 17901).

AA-119, AA-120, AA-121, Parts of Annual Reports made by Consolidated Gas Company and affiliated gas companies to Public Service Commission for years from 1905 to 1918 (Rec., pp. 10297, 10298, 10300, 10305, 10306, 10310, 10313, 10323, 10377, 10943-10945, 18070).

AA-122, Goldthwaite's Table 157 entitled "Gas Production and Sales of the Consolidated Gas Company, 1906-1918" (Rec., pp. 10321, 18074).

AA-123, Goldthwaite's Table 159, Number of Gas Holders of Consolidated Gas System, 1906-1918 (Rec., pp. 10326, 18073).

AA-124, Goldthwaite's Table 160, Compilation from Reports of Public Service Commission of Holder capacity of the Consolidated Gas Company System of Companies (Rec., pp. 10327, 18074).

AA-125, Pyle's Table 156, Gas Production and Sales, 1906-1918, Consolidated System (Rec., pp. 10380, 18075).

AA-133, Goldthwaite's Table 151, Gas Manufactured by each Station of each of the Affiliated Companies as shown by the Annual Reports to the Public Service Commission and its predecessor (Rec., pp. 10420, 18131).

AA-213, AA-246, Mylott's Tables of Mains and Services, including various Analyses taken from the Books of Account of the Consolidated Gas Company, 1906-1918 (Rec., pp. 10853-10882, 18162-18187).

AA-241, Silverman's tables of Book Cost of Real Estate, 1884-1918 (Rec., pp. 10920, 18187).

AA-242, Tabulation of Tax Assessments (Rec., pp. 11941, 18220).

AA-243, Weber's Schedule of Accrued Amortization of Capital (Rec., pp. 10936, 18231).

AA-247, Frank's Table of Meter Property Account "Compiled from Ledger, Invoices and other Records of the Company," 1906-1918 (Rec., pp. 10952, 18247-18252).

AA-254, AA-255, AA-256, Schedules of Taxes from 1906-1918 taken from the company's ledgers and other records (Rec., pp. 11277, 11278, 11280, 18422, 18441, 18449).

AA-300, AA-301, AA-302, Weber's Comparative Statements of Operations covering years 1911, 1912, 1917, 1918 (Rec., pp. 11571, 11572, 18549-18552).

AA-392, AA-393, AA-394, AA-395, Silverman's Tables of Book Cost of Properties (Rec., pp. 12437-12440, 18588-18591).

AA-396, AA-397, AA-398, AA-399, Cohen's Schedules of Consolidated Gas Company's Station Costs, Labor and Material used in Gas Production at 14th Street, 42nd Street, 21st Street and 99th Street Stations, 1906-1918 (Rec., pp. 12441-12444, 18592-18672).

AA-400, Frank's Schedule of Production Expenses, Central Union Gas Company, of coal and water gas, 1912-1918 (Rec., pp. 12454, 18698).

AA-401. Frank's Schedule of Detailed Cost of Production of Coal and Water Gas of the Astoria Light,, Heat & Power Company, 1912-1918 (Rec., pp. 12455, 18700).

AA-402, AA-403. Frank's Schedules of Revenues and Expenses of General Office Building, 1914-1918 (Rec., pp. 12455, 12456, 18702, 18703).

AA-245. Weber's table: entitled, "Detail of Operating Expenses other than Production, 1909-1918" (Rec., pp. 10,955, 18243).

AA-246. Weber's table: entitled "Consolidated Gas Company, Comparative Balance Sheet, December 31, 1905, to December 31, 1918" (Rec., p. 18245).

AA-248. Frank's table: entitled "Consolidated Gas Company of New York, Plant and Construction Accounts 1906-1918, *compiled from ledgers and other records of the Company*" (Rec., pp. 10973, 18252-18260).

AA-261. Weber's table entitled "Financial Results of Gas Business conducted in the Name of the Company in the ten years from 1909 to 1918 as disclosed in its annual reports to the Public Service Commission—Section 2" (Rec., pp. 11407, 18457).

To the foregoing exhibits placed in evidence by the defendants and derived from the books of account and records of the complainant may be added some of the other voluminous exhibits offered by the defendants, and prepared from similar sources, as follows:

AA-13. Gas Production Statistics, 21st Street Station, January, 1918 (Rec., pp. 6660, 17494).

AA-14, Gas Production Statistics, 21st Street Station, twelve months 1918 (Rec., pp. 6661, 17495).

AA-17, Book endorsed Meter and Appliances Repair Shops (Rec., pp. 6714, 17510).

AA-18, AA-19, Gas Oil Vouchers for 1918-1919 (Rec., pp. 6787, 6802, 17510).

AA-404, Schedule prepared by Frank, Accountant, of Analysis of Gas Transferred from Gas Exchanged, Record and Vouchers, 1906-1918 (Rec., pp. 12459, 18704).

AA-407, Hine's table, showing contract dates and prices paid per gallon for oil by all companies in the First District, down to 1915 (Rec., pp. 12,474, 18,743).

AA-408, AA-426, Hine's Tables of Book Cost of Various Properties, as adjusted by him (Rec., pp. 12475-12487, 18749-18763).

AA-443, Superannuation Records for 1917, 1918 and eight months of 1919 (Rec., pp. 12926, 19009).

AA-446, AA-447, AA-448, Monthly and Weekly pay rolls of the Utilization Department, 1916-1919 (Rec., pp. 12936, 12942, 12943, 19013).

AA-513, Excerpts from Minutes of Executive Committee from January 1, 1905, to January 1, 1920 (Rec., pp. 14022, 19345).

AA-524, AA-525, AA-526, Gas made and sent out December, 1919, January, 1920, February, 1920 (Rec., pp. 15376, 19616-19623).

If the complainant's books and records did not constitute evidence, then there is practically no foundation left for the defenses laboriously developed by the defendants. The propriety of the use of these sources of evidence by the complain-

ant cannot be assailed by the defendants consistently with their own use of the same sources for their own purposes.

Nor does the foregoing list of tabulations placed in evidence by the defendants, derived from the appellee's books of account, include the thousands of vouchers, contracts, reports, all manner of original records, tables, summaries, etc., covering virtually every phase of the complainant's operations, which were examined and checked by the defendants' accountants and experts and placed in evidence by the defendants when produced in Court.

A number of the documents offered in evidence by the complainant, in receiving which the defendants complain the Master erred, were introduced as a sequel to roving, aimless cross-examination conducted by the defendants' counsel, bringing such documents into question. For an example, see Exhibit 338, Produce Exchange inspector's report (Record, pages 3994, 3995, 3996, 3997, 4002-4003, 4005).

(4) *Other Inconsistencies in the Appellants' Grounds of Objection.*

The claim that the Astoria books were improperly admitted, although offered by the defendants themselves, is not the only inconsistency in the attitude of the defendants upon this phase of the trial. One of the grounds of exception is that

> "No person who made an entry therein was called as a witness."

And another

> "That by the admission in evidence of the books the defendants were denied the right of cross-examination" (Defendants' Exception No. 14; Record, pages 76a-77a).

This is not what the defendants claimed they were entitled to at the trial, for *they* said that they "did not want to bring the men down who made the entries" (Record, page 9010, fol. 27,028):

> "The Master: What was your position?
> "Mr. Hayward: I took the position that if you wanted to abandon your common-law proof you would have to follow the rule that was followed in the Northern Pacific case, that this proof of data must be taken from the data itself, not from secondary evidence. *I did not want to bring the men down here who made the entries. I wanted to go back to the original cost data and all these things and make the tabulations from those.*" (Italics ours.)

At another stage of the trial, when Mr. Carter, the Vice-president and Secretary of the complainant company, was under examination, the counsel for the defendant Public Service Commission gave him the reassurance "Don't understand me to question the accuracy of your accounts." (Record, page 10,689).

For the Master to have fallen in with the tactics of the defendants in their efforts to compel the complainant to call hundreds of witnesses and identify and prove millions of vouchers, would have been a gross perversion of justice, and would have prolonged the trial of this case for many, many months, and possibly years. The Assistant Corporation Counsel, ostensibly representing the defendant Swann, seconded by counsel for the other defendants, made no secret of what he was endeavoring to accomplish. At an early stage of the trial, he announced his intention of trying to force the complainant to bring "into

this court the underlying records of *every expenditure* of this company", as disclosed by the following excerpt (Record, page 1408):

> "Mr. O'Brien: Well, the record speaks for itself, and I will stand on that statement. Now, if the purpose of counsel is in asking these questions as to the setting apart of a room for some accountants and having Mr. Davidson there to hand them records, if his purpose is to obviate the obligation of bringing into this court *the underlying records of every expenditure of this company*, then he has got to meet us on that point before we get very far." (Italics ours.)

The testimony of Henry M. Brundage, the then Assistant Secretary (later the Secretary) of the Consolidated Gas Company, in charge of the accounting department of the company, to the effect that during 1918 the company passed some 18,300 sundry creditors, vouchers through its accounts and over 100,000 time cards, exclusive of expense vouchers, pay-rolls and thousands of vouchers representing inter-departmental transfers of material, the 18,300 sundry creditors' vouchers alone requiring over 30,000 postings to make the necessary entries in the company's operating ledgers (Rec., pages 1446, 1447, fols. 4338-4339-4340), brought forth the following threat from one of the defendant's counsel (Record, page 1447; fols. 4339-4340):

> "The Master: * * * If you have no objection to the entries of these books——
>
> "Mr. O'Brien: I certainly have, and if he thinks that by laying stress on the fact that there were *100,000 vouchers*, he is not going to have them brought here he is making a mistake. They will be here, either in the course of the direct examination, or——"

and he declaimed (Record, page 2064; fol. 6192):

> "Mr. O'Brien: I am being heard on this, and I want to drive home to your Honor's mind the fact that they should be compelled to bring in their vouchers, the time slips and so on, and allow us to examine them and inspect them *in court.*"

The accounting records of the complainant's operations during the years 1918 and 1919 were the product of the labors of a veritable army of employes working continuously during that period of time. When Mr. Teele, the independent accountant employed in behalf of the complainant, was under cross-examination as to the schedules prepared by him from the books of account and records of the complainant showing the revenues and expenses during that period, the defendants' counsel made no concealment of their purpose to subject him to a minute cross-examination as to *each* item embraced in his schedules. Such a cross-examination would have taken at least as much time as was occupied in making the accounting record! The Deputy Attorney-General said that he "could not proceed here without having a regular cross-examination in the usual way (Record, page 7487).

> "The Master: What is a regular cross-examination?
>
> "Mr. Chambers: I want to have him tell us *item by item, year by year,* how he made this up, and what he used, and if he used book figures, then let him say so, and that ends it" (Record, page 7487);

and, again,

> "Mr. Chambers: I wanted to get an answer as to *each item* (Record, page 7588).

Although the Master had repeatedly indicated the limits of permissible cross-examination of Mr. Teele concerning the property schedule (Exhibit 185) placed in evidence by him, nevertheless counsel for the Attorney-General persisted in extending the cross-examination and said:

> "Mr. Chambers: I have looked at the record, and I cannot see how I can escape asking him questions about *each item*, in view of his indefinite statements" (Rec., page 6540).

The Corporation Counsel displayed a similar disposition in his cross-examination when, notwithstanding the fact that his accountants had checked every original voucher and record and had been given every particle of information there was to be had in respect of the exhibit, and notwithstanding the Master's statement that he might interrogate the witness regarding any item which as the result of his accountant's report he questioned, he stated that—

> "I intend to go through with my cross-examination of the witness on the whole subject of this Exhibit 367 [Summary of Manufacturing Plant and Equipment withdrawn from Service, 1906-1918], asking him as to *each particular item,*" etc. (Record, page 8006).

A fair gauge of what personal proof of each entry in the books might have entailed is indicated in the exculpating plea in the brief in behalf of the Attorney-General (Point XVI, page 344), as follows:

> "The question of the accuracy of the books as well as the question of the necessity of the payments recorded therein depends upon *multitudinous matters which*

could not by any human possibility be checked by a regulating body."

Simply to have transcribed, apart from proving them by identifying voucher after voucher or by oral testimony, every meter index report for every commercial branch of the complainant during the year 1918, against the ledger record of commercial metered lighting would have required, according to Mr. Teele, the expert accountant, *the same number of men and the same length of time*, as were required by the complainant in making the original record, and the period of time was obviously a whole year (Record, pages 2093-2094).

How interminable would have been the task of bringing into court and identifying and proving each voucher is indicated by the fact that the complainant, with respect to only one phase of its operations, the collection of charges to consumers, has about 6,000,000 billstubs in a year (Record, page 1803-1804; fols. 15,409-15,411). The witness Brundage testified that those were vouchers which led to the reports from the branch offices and the reports from the branch offices in turn led to the books.

The Special Master repeatedly advised the defendants that they could call to the stand any witness they wished, from the complainant's employees and staff, and they did call *many* of them. The examination by the defendants of Middleworth, the superintendent of the complainant's garage, demonstrated the futility of the mode of proof to which the defendants sought to drive the complainant. The defendants required the production of several truck-loads of time-cards, chauffeurs' reports, repair bills, etc., in the garage department, including "all records of out-

going and incoming automobiles in the garage, all records of any and every kind in reference to the use made of the automobiles of such company and affiliated companies," but all of this led to nothing helpful to the Court or to the defendants; as the Master said, it served only to disclose how carefully and completely the company keeps its records and how closely is tab kept on the use of cars and all garage transactions (Record, pages 13,121, 13,138, 13,139, 13,236, 13,265).

The defendants sought to compel the complainant in this case to present a quantity of proof, beyond the 16,000 pages and more than 1,000 exhibits embracing the testimony and evidence, which would have required years to produce and thousands of volumes to record. Such a miscarriage of justice has never been perpetrated in any other rate case in any Federal Court.

(5) *The specification of error in the Appellants' Bill of Exceptions presented no issue before the Court below.*

Although the Court below reviewed the contentions of the defendants irrespective of the sufficiency of the exceptions filed by them to the Special Master's Report, nevertheless the Court below would have been wholly justified, because of the insufficiency of the defendants' specification of error in their bill of exceptions as a basis for review (Record, page 209-a), under the uniform authorities, to overrule the exception. (*Harding vs. Handy,* 11 Wheat. 13,126; *Medsker vs. Bonebrake,* 108 U. S. 66, 71-72; *Sheffield, etc., Ry. Co. vs. Gordon,* 151 U. S. 285, 290-291.)

(6) ***The ruling of the Master is abundantly sustained by reason and by authority.***

Complainant's Accounting System

(1) The Consolidated Gas Company has, and has had for a great many years, an approved system of accounting for all its transactions and its revenues and expenses. Every practicable check that can be made upon the reliability and correctness of its records is made. No expenditures are made except upon the authority of the executive officers and the executive committee. Bills, vouchers and payrolls are checked, examined and approved, in a manner hereinafter explained. There is the most strict accounting of all receipts and expenditures.

(2) Periodic audits of the accounts of the Company are made by highly qualified accountants in no way connected with the Company or its regular staff.

(3) The State of New York, acting through the Public Service Commission, prescribes the form in which gas corporations shall keep accounts. It also prescribes certain classifications, defines what items of expenditures shall be entered and recapitulated under each heading. It also prescribes penalties for failure to keep the accounts in accordance with the regulations. It requires the companies to report under oath the facts and figures resultant from the accounts so kept. The accounts and records of the appellee are at all times subject to visitation, scrutiny, and regulation by the Public Service Commission. The whole purpose of such a system of accounts is to make complete and dependable data regarding gas operations readily available to the Commission, the Legislature, the Court, the company, and its investors.

(4) Detailed information transcribed from the accounts of the Company is continuously in the possession of the Commission and the taxing authorities of the City, the State, and the Nation.

(5) A thorough and independent audit was prepared by an outside firm of certified public accountants, with a large staff of assistants, of accounts, records and vouchers of the gas company for 1918 and 1919 and for various periods from 1906 to 1918. As illustrating the thoroughness with which Mr. Teele checked the vouchers, material invoices, records, payrolls, departmental reports, time-cards, inventories, index books, etc., and verified the accuracy of the book entries, we refer the Court to pages 2004, 2009, 2013, 2014, 2017, 2086, 2091, 2092, 2099, 2101, 2126, 2129, 2137, 2139, 2151, 2720, 2726, 2746, 3036, 3042, of the Record.

(6) All the books of account and underlying records and vouchers of the complainant were thrown open to the defendants in February of 1919, with every facility for minute investigation and verification. And their accountants and examiners were engaged upon the examination of the complainant's accounts, vouchers and records from at least June 9, 1919 (Record, pages 1403-1405, 1411) till the end of the trial in April, 1920. Thousands and thousands of vouchers and records were furnished to the accountants for the Public Service Commission (Mr. Frank and his staff); the accountants for the State (Mr. Maltbie and his staff); and the accountants for the Corporation Counsel (Mr. Sangster and his staff). Beyond that, the engineers of the defendants also examined exhaustively the plants and technical records of the complainant.

As to this, Mr. Brundage, the Assistant Secretary of the complainant gas company, testified that all the accounts, records and vouchers of the complainant were placed at the disposal of the defendants, with all necessary facilities for conducting the examination (Record, pages 1403-1411).

On February 10, 1919, a letter was addressed by counsel for the complainant to the Attorney-General and each of the other defendants, notifying them that the property, plants, books, records and vouchers, and everything else connected with the construction work of the plant, "were open, freely, fully and at all times, to the inspection of the defendants and their authorized representatives in this case" (Record, pages 323, 325). The trial did not begin until July 15, 1919, and did not end until March, 1920.

Mr. Frank, the principal accountant detailed by the defendant Public Service Commission to the work of examining the books of account, records and vouchers of the complainant, testified at the hearing on January 14, 1920, under examination by counsel for the Public Service Commission, that he had been assigned by Dr. Weber, his superior, to work on the books of the Consolidated Gas Company in connection with this litigation, that he went to the company's offices about June 10th, and worked continuously since July 1st, 1919, with from three to five assistants, upon the accounts so kept. Adjournments were granted by the Special Master on numerous occasions pending completion by the defendants' accountants of particular phases of their work.

The defendants were also given complete access to the "plant, properties, books, accounts, vouchers, records, etc.," of each of the affiliated companies (Record, pages 1720, 1791, 1792).

Testimony of Mr. Brundage, Head of the Accounting Department of the Complainant.

Mr. Henry M. Brundage, Assistant Secretary (later Secretary) of the Consolidated Gas Company, who has been employed by it since March, 1903, and previously was employed by gas and electric companies from 1894 to 1903, and who had participated in the formulation of the Uniform System of Accounts of the Public Service Commission, testified that he had supervision and control of the appellee's accounting department, accounting records, and accounting force, and supervised and directed the system of accounts kept both at the main office of the company and at its stations and branch offices (Records, pages 1395-1403).

Substantially the same system of accounts and accounting methods has been followed by the Consolidated Gas Company for at least the period of the relationship of the witness Brundage to the accounting department of the company, that is, since 1903 (Record, pages 1422-1423, 2858-2867).

Mr. Brundage described in great detail the records kept of the various transactions of incidents of the conduct of the complainant's business.

General Books of Account.

Mr. Brundage testified that, in the complainant's general office accounting department, the complainant kept a general ledger, a general journal, an operating ledger, an operating journal, a voucher record, a cash book (in the Treasurer's office), a sundry creditors' ledger, a sundry debtors' ledger, and a sundry debtors' blotter.

All of the records which are made in these books come to the accounting department from the various departments of the Gas Company. The entries of payments for wages or salaries are supported by the payrolls representing the expenditures for labor, all of which are vouched for through the established system of the company and approved in each individual instance by the superintendent of the department. Many of the items recorded in the books of account come to the accounting department from petty cash vouchers which are likewise vised and approved by the superintendent of each department making the expenditure. Other entries in these books are based upon the sundry creditors' vouchers, each of which is required to be supported by a receipt voucher signed by the superintendent who receives the goods, checked by the purchasing department as to price, checked against the general office copy of the order upon which the goods were purchased, verified as to mathematical accuracy and passed by the auditor. Still other entries in these records are based upon interdepartmental vouchers representing material transferred from department to department. Reports are also received by the accounting department from every other department recording the operations of that department, which lead to general entries in the company's books of account (Record, pages 1411 to 1412).

Subsidiary Books and Records.

In addition to these so-called general books of account, the company keeps several subsidiary records; for example, the commercial department keeps consumers' ledgers, which are in turn supported by a great many records.

Commercial Department Revenues.

The commercial department records the sales of gas, through which is derived the bulk of the company's revenue. Mr. Brundage described in great detail the fixed routine of the system of determining and accounting for the gas consumption or gas sales of each customer, from the field index book in which the indexer on the district records the index of the meter as of the date of the reading, through the district bookkeeping, the billing, the checks and rechecks made, and the recapitulation sheet which is transmitted to the general office and forms the basis of the entries in the general books of account, which bring together the transactions of the several branches of the company (Record, pages 1412-1416).

He also described elaborately the system for recording, collecting, and accounting for cash receipts, and how the records are verified (Record, pages 1416-1417).

Manufacturing Stations.

The largest items in the gas manufacturing business are coal, oil and labor. Mr. Brundage testified in great detail as to the course followed in accounting for the materials received and used, labor employed, and expenditures for these elements.

Coal.—A record is maintained in the manufacturing station as to the quantity on hand, say, at the beginning of the month. All coal that is delivered during the month is weighed at the receiving station, entered in a log-book, and a perma-

nent record maintained at the station by the clerk of the station as to the receipt of the coal. This record provides a means by which the superintendent is enabled to say that on a given day, from a certain shipper, he received a certain quantity of coal, and the particular receipt voucher comes to the accounting department and forms a part of the basis upon which the accounting department is justified in allowing that bill to pass through the accounts. The coal is taken from the coal pile for use in the generators or retorts, as the case may be, is run across a scale, and the weight is taken. A record is kept of the coal so used, which goes to the station clerk, who records it in a record, which is maintained for a month, and which gives him information as to the amount of coal which he has drawn from the coal pile during that month. From that record a report is made by the station superintendent, which comes to the accounting department as the coal used in actual manufacture, and this leads to the entry in the company's books of account, crediting the coal pile, and charging the production cost with the coal so used.

Oil.—As oil comes in, the contents of the tank are noted, and a measurement is made of the amount of oil in the tank at the beginning, and the amount of oil taken into it, and as the oil is withdrawn a record is maintained in the station, which is reported by the station superintendent to the accounting department, and is transferred to the books of account, crediting the oil stock and charging the production cost with the oil so used.

Labor.—With respect to labor at the manufacturing stations, a record is taken down by the timekeeper, or, in the case of small stations, by

the foreman, of the amount of time spent by each individual laborer or workman and the work upon which he is engaged. This record goes to the station office, where it is retained as a record, and from it a report is prepared for each individual workman by weeks, showing the amount of time that he labored, and for account of which the amount of wages paid to him is to be charged.

These individual cards, for each individual workman, are submitted to the superintendent of the station, who initials them, and the cards are transmitted to the general office payroll department, and from those cards the payroll is made up (Record, pages 1417-1420).

Department of Streets and Mains.

In the department of streets and mains, the principal items of expenditure are for labor, pipe and incidental materials.

Mr. Brundage testified that the record of the labor employed in the street department is kept, in the case of a small shop, by the district foreman, or in the case of a large shop, justifying such employment, by a timekeeper. The foreman, or a timekeeper, as the case may be, keeps a record of the men under his direction. In the street department are small gangs working in many places throughout the city, under the direction of a foreman, and each gang, in turn, is under the direction of a district foreman. A record is kept of the amount of time devoted by each laborer, which is verified by the timekeeper or the district foreman, and is transmitted to the branch street department where it is recorded, and from which weekly individual time cards are prepared, show-

ing the name of the employee, the amount of time spent in labor, and the nature of the work upon which he was engaged. The card is signed by the superintendent in each case, and is then transmitted to the general office payroll department, from which the payroll is made up and the classification established.

Material.—Of the material used by the street department, cast iron pipe is the principal item. Cast iron pipe is usually purchased by the appellee under contract. The pipe is delivered to the yard, and as it comes in, it is recorded by the yard foreman, as to the quantity and size of pipe received, and from whom received. That record is kept in the branch street department and a receipt voucher, indicating that on a certain date the company received from a certain shipper so many tons of a certain size of cast iron pipe, is made out and is forwarded to the accounting department, forming one of the bases upon which to pass the shipper's bill for the pipe. As the pipe is withdrawn from the stock for the purpose of new mains, or for the purpose of repairing old mains, the yard foreman receives a proper authorization from the superintendent of the mains department to deliver at a certain point, or to a certain foreman, a specified quantity of described pipe. The yard foreman keeps this record and at the end of the day turns it in to the branch street department, showing that he has delivered the quantity of pipe he was ordered to deliver. The street department keeps these records during the month, and at the end of the month transmits to the general office a statement of the tonnage and size of each kind of pipe delivered and the purpose for which it was used. This statement

leads to an entry in the general books of account, crediting the stock account with pipe and specials and charging the proper accounts for the pipe so used (Record, pages 1420-1422).

Payrolls.

A payroll department, within the accounting department, is maintained at the general office. Mr. Brundage traced the system of making-up, checking, and approving pay-rolls, classifying the employes, and the payment of the wages (Record, pages 1423-1425).

Creditors' Bills.

The sundry creditors' bills come to the accounting department and usually through the mail, going through the regular routine, which requires that each bill be supported by a receipt voucher, signed by a superintendent, showing the receipt by him of the material. The bill must be further supported by checking it against a carbon copy of the order upon which the goods have been purchased. It must be further certified as to the price which the purchasing department agreed to pay for the material, and as to its mathematical correctness, and must be classified as to the work for which the material was to be used. The bill is then approved by the auditor and transmitted to the treasurer's department, by which, in due course, it is paid by check.

As to payments to contractors, pursuant to contracts, the procedure described by the witness Brundage is as follows:

The contract is placed, under the approval of the company's executive committee, and the contract is thus recorded in the accounting depart-

ment, the original contract being filed in the secretary's office and, as the work progresses, the field inspectors or engineers report to the engineer of construction, as to the work accomplished. The superintendent of construction will issue a certificate that as of a certain day, a certain contractor is entitled to payment of a specified percentage of the amount of the contract, which is sent to the accounting department, checked for mathematical accuracy, classified in accordance with the report of the engineer of construction, passed through the accounts and transmitted to the treasurer, who makes the payment. (Record, pages 1425-1426).

Executive Committee.

In addition to the routine described, all expenditures require the approval by the Executive Committee of the Company, which meets weekly and passes upon such expenditures, whether large or small.

There is a Committee of Accounts appointed by the Board of Trustees, made up of specially qualified members of that board, which meets monthly and to which there is presented all of the original vouchers that have been paid during the preceding month. The Committee of Accounts confirms, from an examination of the vouchers, that every voucher has been approved by the Executive Committee, and also checks against the company's cash book the vouchers paid (Record, pages 1427-1428).

Reports.

The reports and memoranda made up at the branch offices, stations or departments by employees in the regular course of their duties, as described by Mr. Brundage, are upon printed forms supplied by the Company through its central accounting department, and the method of handling those reports, both as to their composition, their transmission to the general office and their entry in the general books of account, is a part of the regular routine in the course of the business of the company.

There are a great number of reports received at the general office from the branch offices, works, stations, etc. He enumerated 107 monthly reports from other departments thus received by the accounting department, each of them signed by the superintendent of the particular branch or department. These reports and memoranda after they are entered in the general books of account are kept on file (Record, pages 1429, 1431, 1433).

Each of these reports is in turn supported by vouchers and other memoranda in the particular department.

Daily and other periodical reports concerning the production and distribution of gas, as well as of other phases of the company's business, are also received by the head of the manufacturing department and by the executive officers more immediately in charge of certain spheres of the company's work (Record, pages 1429-1431, 1432, 13,-127, 13,161).

Quantity of Vouchers.

The quantity of vouchers for various incidents and transactions in the company's business is prodigious. Thousands of vouchers are received in the accounting department. During the year 1918 alone, the accounting department received and passed through its accounts 18,300 sundry creditors' vouchers, exclusive of expense vouchers and payrolls. The weekly time records were in excess of 100,000. The number of employees handled through the payroll department is between 2,000 and 2,400 (Record, pages 1432-1433). There are also thousands of vouchers representing interdepartmental transfers of material (Record, page 1446). It required over 30,000 postings to make the necessary entries in the operating ledgers from the 18,000 sundry creditors' vouchers, excluding entries in other books of account (Record, pages 1447-48). There are 6,000,000 cash coupons for the payments made by consumers (Record, pages 1803-1805). The monthly reports from the various departments number 107, and these are in turn supported by data from each department, running into thousands of papers (Record, page 1803).

The number of separate documents and reports of vouchers which would be required to be produced in court to support the entries in the books, for the year 1918 alone, traced back to all of the original daily memoranda or other slips or sheets in the various branches and works, would be many millions (Record, page 1805).

Tests of Accuracy of Records.

Tests of the accuracy of the reports and other data, received from stations and branches, and tests of the other accounting data are made periodically (Record, page 1435). For example, the tests of the accuracy of the reports of material on hand are made by the complainant through the taking of a periodical inventory (Record, pages 1435-1436).

A check upon the collectors of charges to consumers is obtained by the frequent shifting of the collectors from one group to another, and by the sending out of statements of account at odd intervals directly to the consumers, showing balances due, and if such bills have been paid by the consumer, he would naturally bring same to the attention of the company's representative (Record, pages 1437-1438). The indices are checked as to accuracy by the shifting of the indexers (Record, page 1438).

The accuracy of quantities of gas oil is tested by the making of a computation of the gallonage of oil used per thousand cubic feet. This computation is furnished to the engineer of manufacture as well as to the accounting officers, and if the quantities used vary from the quantities which should have been used, to an extent calling for explanation, an investigation is made (Record, pages 1438, 1439, 1431). The quantities of coal are tested by the same method, the computation being made as to the number of pounds of coal used per thousand cubic feet of gas which is also furnished to the engineer of manufacture, and where the quantities used are at variance with the quantities which in his judgment should have been used, an investigation is made (Record, page 1442).

Changes in Personnel of Bookkeepers.

During the year 1918 alone, the bookkeepers who made the entries in the books of account at the General Office numbered approximately twenty-five (Record, pages 1459-1460). There was a considerable turnover, due to the war (Record, page 1460). Many of these twenty-five men went away from the company and their whereabouts were unknown (Record, page 1461). Of the twenty-five men who worked in different capacities upon the general books of account, in the year 1918, not over half a dozen were in the employ of the company in August, 1919, when the witness Brundage was testifying concerning the accounting methods of the company (Record, page 1462). These changes in personnel in the general accounting department of the company did not include the changes in the personnel of the employees who worked upon the books of the complainant in its branch offices (Record, page 1463).

Single Set of Books of Account.

A single set of books of account is kept by the complainant company, which the witness produced in court and identified (Record, pages 1464-1465) and which was subsequently put in evidence by the complainant.

Independent Examination and Verification of Books of Account by Mr. Teele.

A highly qualified and eminent accountant, not in the regular employ of the company, Arthur W. Teele (Record, pages 1906, *et seq.*), was employed to make an independent examination of the accounts of the appellee such as would satisfy him in regard to the integrity of its accounts and enable

him to prepare accurate and complete statements of the revenues and expenses from the gas business (Record, pages 1965-1966).

Mr. Teele and his staff of accountants traced the entries in the Operating Ledger for 1918 back to the sources from which they were posted, and, in connection with the entries made in the posting mediums, that is, the Operating Journal, Accounts Payable Vouchers, Sundry Debtors' Blotters, Payroll Summaries, Sundry Debtors' Ledger, Sundry Creditors' Ledger, and Treasurer's Cash Book (Record, pages 1999-2003). They examined the vouchers listed in the Accounts Payable Records, or Invoices Approved, and the various departmental reports upon which the entries made in the Operating Journal are based. The payrolls were all checked and verified, and the distribution of the payroll, that is, the allocation of the expenditures to the various classifications of accounts, was tested by taking the individual time slips for two months during the year 1918, that is, January and December, and making an independent computation of the distribution of labor; the examination embraced over 10,000 time cards (Record, pages 2004-2009). He examined, or had examined under his immediate personal supervision, *every* voucher listed in the approved invoice record for the year 1918 including the evidences of receipt of materials (Record, pages 2012-2014, 2016). Payments recorded in the treasurer's book were checked against the invoices (Record, pages 2014-2016). He visited the manufacturing works and examined the method of compiling and preparing reports to the General Office, the records made at the point where these reports were initiated, and how the facts contained in the reports were obtained, and how they were reported (Record, 2017).

The forms of various kinds which were used in the complainant's business for recording the time of labor and the receipt of merchandise were regarded by Mr. Teele as "well designed to make a proper record of the transactions reported upon" (Record, page 2027). The books and records were suitable to secure, and tended to, an accurate record of the complainant's business (Record, pages 2031-2032).

Although the complainant had met every sanctioned pre-requisite to the introduction of tabulations from its books of account and records, the Master required certain additional tests to be made to demonstrate the accuracy and reliability of the books of account, by checking bills for goods charged with contemporaneous records made at the time, showing that they came in, and, further, time cards certified by the superintendent sufficiently to make sure that the superintendents' "O. K." is to be relied upon, with the time-book itself, saying: "Then you have a complete record" (Record, pages 2036-2037).

The Assistant Corporation Counsel expressed his approbation of this (Record, page 2058):

> "Mr. O'Brien: Your Honor's attitude at the close of the session yesterday with respect to what you are going to require this witness to do is in the direction of what we think *is right*."

The record in the Operating Ledger of the quantity and amount charged for commercial metered lighting was checked by Mr. Teele by an examination of the supporting reports of the branch offices, and the accuracy of these branch office reports was checked by going back to the original records of the indexers. He found the

records correctly transcribed into the ledger (Record, pages 2086-2088). The witness described the checks made by him of the index readings through their various stages from the record of the indexer to the ledger (Record, pages 2091-2094). He checked all the branch office reports against the succeeding book of account entries to the Operating Ledger (Record, pages 2098) with respect to the accuracy and verity of the method of making up the figures reported in the branch office reports, and made minute and extensive checks described by him at pages 2100 and 2101 of the Record.

The book record of the revenue from gas appliances was traced by the witness Teele through the branch office reports to the original contracts or rental charges entered upon the consumers' ledger (Record, pages 2126-2127). The entries in the account of gas residuals produced he traced back to the monthly manufacturing reports and to the daily manufacturing record kept at the 99th Street Station, including, in the case of tar, the tar man's book (Record, pages 2129-2131). The witness also detailed at great length his verification of the Operating Ledger entries relative to gas residuals produced (Record, pages 2133-2137); residual expense (Record, page 2137); gross profits from the sale of gas appliances (Record, pages 2137-2147); and numerous other items (Record, pages 2718-2748, 3038-3068).

Mr. Teele and his assistants analyzed and tested the complainant's books of account, Exhibit Nos. 188 to 200, in respect to items relating to one month at a manufacturing station, as suggested by the Master, tracing the book entries to the

original record, for the purpose of determining whether the books had been correctly kept, and he expressed the opinion, as an expert accountant, that the books of account were substantially correct (Record, pages 2151-2153).

With respect to the entries in the books for labor at the several stations, Mr. Teele and his aides checked the payrolls and reports with regard to the payments made on account of labor. They checked the materials shown as used at the stations against the monthly station reports made by the superintendent of the station. The materials purchased they traced back to the original purchase vouchers or invoices, which bore the receipt of the receiving employee. He computed the total quantities of oil and coal used at the several stations by taking the inventory shown on the respective reports at the first of January, 1918, and listing from the original purchase invoice all the quantities of oil and coal purchased, and setting up against those the inventory left on hand as reported by the various superintendents on December 31, 1918, and arriving at the total quantity of oil and coal to be accounted for by the company. He examined all the original invoices for material purchased for gas-making use and listed them separately, with the quantities and prices, and in that way made a calculation as to the total cost of oil and coal used during the year (Record, pages 3041-3043). He examined the distribution of all payrolls and charges to other companies, and the time recorded by any employee as having been used for other companies than the Consolidated Gas Company, and found that the time so reported was not included in any Operating Account of the Consolidated Gas Com-

pany, but was charged against the account of the company which was the debtor of the Consolidated Company (Record, pages 3043-3046).

The entries showing the cost of distribution he also verified (Record, pages 3049-3051).

Legal Principles and Precedents.

The books of account of the complainant were properly admitted in evidence by the Master and their admission was properly sustained by the District Court.

Federal Equity Rule 62, defining the "powers of master," provides that the master shall have full authority.

> "also to direct the *mode* in which *the matters requiring evidence* shall be proved before him."

In determining what mode of ascertaining the ultimate facts the Master would sanction, these facts were pertinent::

(1) The magnitude of complainant's business.

(2) The multiplicity of its plants, stations, branch offices, etc., and the large number of the operating employees and accounting employees.

(3) The enormous quantity of vouchers, slips, reports and similar memoranda, which find their way to the accounting department.

(4) As is *necessary* in an enterprise of such magnitude, the complainant has developed a regular course of doing its business and recording the results thereof—a system *which is, of necessity, accurate and complete*, else the system would break down.

(5) The complainant is of legal necessity governed by the Uniform System of Accounts prescribed by the Public Service Commission for the First District in pursuance of the public policy of the State, which has "*the force of law*" (*People ex rel. Kings Co. Lighting Co. vs. Straus*, 178 App. Div. 842).

(6) The power conferred upon the *defendant* Public Service Commission "to examine the accounts, books, contracts, records, documents and papers of any such corporation, person or municipality, and * * * after hearing, *to prescribe by order the accounts in which particular outlays and receipts shall be entered, charged or credited.*" (Pub. Serv. Com. L., Sec. 66, subd. 9).

(7) The duty imposed by law upon the complainant of filing with the Commission annually verified reports showing "in detail" (c) "its receipts and expenditures during the preceding year." (Pub. Serv. Comm. L., sec. 66, subd. 7.)

(8) The duty imposed upon the defendant Public Service Commission, as to gas corporations, to

"5. Examine all persons, corporations and municipalities under its supervision and *keep informed as to the methods, practices, regulations and property* employed by them in the transaction of their business." (Pub. Serv. Comm. L., sec. 66, subd. 5.)

(9) Not only are the company's books and records thus made virtually public records of this great public enterprise, and not only

are their accuracy and completeness sponsored by the Commission's presumed and actual performance of its statutory duty, but the further fact exists that all of the complainant's vouchers, time-slips, records, etc., as well as books of entry, were by formal offer and written notification thrown open to the free, full inspection, audit, verification and check of all the defendants and their accounting representatives. Not only that, but tabulated statements showing in detail the larger part of the items which the complainant desired to prove in this case, were furnished to all of the defendants in advance of the trial, such detailed itemization showing as to each item, the references to the folios of the company's books of entry, at which folios, in turn, is set forth the further itemization and the numbers of the vouchers for each such item of expenditure. Nor is that all. The accounting representatives of the Public Service Commission, and to a lesser extent of the Attorney-General, had been at work upon the books and vouchers, checking and verifying the tabulated statements of the complainant's proposed proofs, etc. The vouchers, time-records, etc., had been produced for them and checked by them.

The Arkansas Rate Cases

Perhaps the most recent ruling of the United States Supreme Court most clearly in point upon the present question, is to be found in the so-called Arkansas Rate cases *(Rowland vs. St. Louis &*

S. F. R. R. Co., 244 U. S. 106, 108), brought to restrain as confiscatory the enforcement of a rate fixed by a State statute.

The question litigated in that case was as to the receipts and expenses and their proper allocation between intrastate and interstate business. The defendant public authorities, as in the case at bar, took what the Supreme Court mildly characterized as "a purely negative attitude". In overruling the objections of the defendant railroad commissioners and others to the hearsay and incompetent character of the statistical proof offered by the railroad company in the form of "elaborate tables" of figures made up from books and records made available to the defendants but not proved or placed in evidence, this Court said (pages 108-09):

> "It is enough to say that the Railroad adopted *the only practicable mode of presenting its results*, that it exhibited its worksheets and data to the appellants, that the returns were made by the employees in the course of their business and that if the appellants had desired to question any of the data they could have called for further verification. It seems to us that technical rules are satisfied and that justice plainly requires this objection to be set aside."

Without undertaking to say that the findings made by the District Court as the basis for its conclusion of the confiscatory character of the rate, were precisely correct or in all respects sound, the Supreme Court ruled that the proof sufficiently disclosed the confiscatory character of the rate under attack, and that approximation of accuracy need not be insisted upon, where the showing, taken by and large, left no margin within which

error might change the result. Upon this point, the Court said what is highly pertinent to the present case:

> "We do not propose to follow the arguments that have been addressed to us into the elaborate tables of figures. We are satisfied in the main with the discussion that they received below and shall refer only to one or two details that seem to need mention, without discussing the merits or demerits of the formulas. We are of opinion that the Railroad has shown successfully the state rates to be confiscatory and that even if some errors are detected they are not enough to change the result.
>
> * * * * * *
>
> "But the extent of the error, if any, is doubtful, and neither that nor any other possible errors would turn the scale."

Much of the argument here urged by the present appellants was advanced before this Court in the *Arkansas* case (See brief in that case in Reply on Behalf of Appellants, pages 21-23; Reply to New Brief of the Railroad Company, pages 73-74), but without success.

A Recent Case of General Application

In *Givens vs. Pierson's Admnx.* (167 Ky. 574) a number of evidentiary rulings, pertinent to the questions at bar, were made by the Court of Appeals of Kentucky in 1916, by way of discussion of "some of the exceptions which have grown up in the law, for the purpose of making this species of evidence [book evidence] useful when sought to be applied to modern business methods." The points passed upon by the learned Court included:

(1) *"What are original entries?"*

Upon this point the Kentucky Court refuted the claim that the vouchers, time-slips, reports, shop or branch memoranda and records, etc., are the "original entries", rather than the books in which the data from these sources are first brought together, and said:

> " • • • The authorities are very generally agreed that the entries on tickets or stubs or slips of paper made out by clerks in stores in the regular course of business and at the time the transaction actually happens, are not the original entries in the meaning of the rule. The original entry is the entry first made in the regular course of business in a permanent book, as, for example, in this case in the bill book or cash book. Entries first made on tickets or stubs or slips of paper by clerks or others are treated as mere memoranda, admissible as evidence for the purpose of refreshing the memory of the party who made them, if he is introduced as a witness, but not as independent or substantive evidence of the fact that the transaction took place: *Chamberlayne on Evidence*, vol. 4, sections 3085-3089; *Elliott on Evidence*, vol. 2, section 460."

(2) *The admissibility of ledgers, cash-books, etc.*

In holding the "ledger" admissible as proof of outlays and receipts entered therein, the Kentucky Court said:

> " • • • where the entry is made in the usual and regular course of business on a permanent book, whether it be a day book or bill book or cash book or ledger, from memoranda or tickets or stubs or slips made out in the usual way by clerks when the transaction occurred, these book entries

> are admissible as original and substantive evidence of the transaction whether the person who made the entries be living or dead at the time of the trial, and without reference to whether the original tickets or stubs or slips are available or the clerk who made the memoranda upon them can be produced."

(3) *The reasons why the ancient "shop-book" rules must give way to the practical exigencies of large present-day enterprises.*

Upon this point, the Kentucky Court of Appeals quoted, with approval, the statement of *Jones on Evidence* (Vol. 3, Sec. 569), as follows:

> "The former strict idea of what constituted original entries has been modified to fit the necessities of new business conditions. Inasmuch as under the modern methods of business houses the information relative to the transactions constituting the accounts must pass through various hands before being permanently recorded, some system of temporary memoranda preparatory to the permanent records is necessary to insure convenience as well as accuracy. It would be impracticable to preserve for any great length of time the tags, slips or tokens constituting such original memoranda and impossible, in view of the changing of employes, to obtain the testimony of the person who made the temporary memoranda or conducted the transaction. Hence, following the rule of necessity, the courts do not regard such temporary memoranda as the originals, but look to the permanent records of such original entries, when properly verified by a suppletory oath. In this particular, every case must be made to depend very much upon its own peculiar circumstances, having regard to the situation of the parties,

the kind of business, the mode of conducting it, and the time and manner of making entries."

To similar effect, the learned Court quoted *Wigmore on Evidence* (Vol. 2, Sec. 1630), as follows:

"The conclusion is, then, that where an entry is made by one person in the regular course of business, recording an oral or written report, made to him by one or more other persons in the regular course of business, of a transaction lying in the personal knowledge of the latter, there is no objection to receiving that entry under the present exception, provided the practical inconvenience of producing on the stand the numerous persons thus concerned would in the particular case outweigh the probable utility of doing so. Why should not this conclusion be accepted by the courts? Such entries are dealt with in that way in the most important undertakings of mercantile and industrial life. They are the ultimate basis of calculation, investment and general confidence in every business enterprise; nor does the practical impossibility of obtaining constantly and permanently the verification of every employee affect the trust that is given to such books. It would seem that expedients which the entire commercial world recognizes as safe should be sanctioned, and not discredited, by courts of justice. When it is a mere question of whether provisional confidence can be placed in a certain class of statements, there cannot profitably and sensibly be one rule for the business world and another for the court room. The merchant and the manufacturer must not be turned away remediless because methods in which the *entire community* places a just confidence are a little difficult to reconcile with techni-

cal judicial scruples on the part of the same persons who as attorneys have already employed and relied on the same methods. In short, courts must here cease to be pedantic and endeavor to be practical."

The practical necessities prompting this ruling, and the broad scope to be given it, were thus explained by the Court of Appeals of the State of Kentucky:

> " * * * if entries made in the regular course of business on permanent books from data furnished in the form of tickets made out at the time the transaction actually occurred, were not admissible as original entries, the doctrine of the admissibility of this character of evidence would be of little value to modern business establishments. In the early history of mercantile affairs it is likely that entries showing sales of merchandise or other articles, or the advancement of money, if that was a part of the business, were made in some permanent book at the time the transaction occurred by the person who attended to it; and even now in many small business establishments this method is pursued and books so kept are of course, accurately speaking, books of original entry."
>
> "But this method of making entries in permanent books at the time the transaction actually happens is impossible in the conduct of large establishments where the usual and customary manner is for the clerk or other person who attends to the transaction with the customer to make an entry of it on a ticket and on the next day, or perhaps the same day, the entries made on these tickets are transferred by the bookkeeper to some permanent book. But it would be a rare instance in which the bookkeeper would have any knowledge of the transaction except such as he gained from

the ticket handed to him to be entered in his books. And so this change in business methods has made necessary the broadening of the rule admitting book entries as substantive evidence, and now the test of the admissibility of this class of evidence does not depend so much on whether the entry offered in evidence was as made on a permanent book at the time the transaction actually occurred by the clerk who attended to it as it does on the fact that it was made in a permanent book as a part of the regular course of business and in the usual manner in which the business is conducted, although the entry may be made by a person who has no personal knowledge of the transaction and whose only information is gained from the tickets furnished him by the clerks or persons who actually attended to the business.

If, therefore, the bill books or cash books, in which the account of Givens was first entered, were available or could have been introduced as evidence, there would be no difficulty in holding that the entries made in these books by the bookkeeper from the memoranda contained on the tickets made out by the clerks and cashiers would be independent substantive evidence of the fact that the transactions appearing on these books actually occurred. *These books alone, in the absence of any other evidence, would have made out a prima facie case for the plaintiff, although neither the tickets nor the parties who made them could be produced, and although the bookkeeper who made these entries on the books had no knowledge of the transaction except such as he gained from the tickets furnished to him at the time the book entries were made.* But as the bill books and cash books were destroyed by fire before the trial, as well as the tickets, the remaining question is, was the ledger entry admissible as independent substantive evidence?"

The Court held the ledger admissible, even under these circumstances:

> "It is also true that this character of evidence may sometimes give to the merchant an advantage and make it difficult for the person charged to disprove the correctness of the entry. But the rule admitting this species of evidence has been so sufficiently tested by the experience of the years it has been in effect and so generally approved as to show that little if any injustice has been perpetrated under it. And if it was not admissible to prove accounts in that way, it would many times happen that the merchant would be unable to enforce the collection of a just claim, if the debtor was disposed to question all book entries that could not otherwise be proven on account of the absence or death of the persons who sold the articles or made the entries and the loss of books."

The Des Moines Gas Case.

In the case of *Des Moines Gas Co. vs. Des Moines* (199 Fed. Rep., 204; 238 U. S. 153), William J. Hagenah, who was employed by the gas company for the purpose of making an audit of its books and accounts, and who had had no other relation to its business or operations, was permitted to put in evidence, as Complainant's Exhibit 23, a "Report on Financial Conditions of the Des Moines Gas Company, Des Moines, Iowa; December 31, 1910, by William J. Hagenah," upon the simple foundation that his examination disclosed that the accounts "conform to the proper accounting requirements" and "are correctly kept," and that the schedules prepared with the cooperation of his employees under his direction were "correct statements of the condition of the com-

pany's books." (U. S. Supreme Court Record in that suit, vol. V., pages 3427-3428; vol. II., pages 1197-1198, 1205-1206). The case was heard before ex-Judge Robert E. Sloan, whose learning and eminent qualifications for the task of a Master in Chancery were attested both by the counsel in the case and the reviewing District Judge (199 Fed. 204, 205).

The Keyes Case.

In *Northern Pacific Ry Co. vs. Keyes* (91 Fed. 47), the complainant railroad company sought to enjoin the enforcement of a rate deemed confiscatory. Various summaries and tabulated statements showing the company's receipts and expenditures were offered in evidence. They had been physically prepared by a large staff of bookkeepers and clerks, under the direction of executive officers of the Company, who attested their correctness to the best of their knowledge and belief. The accountants, clerks, etc., who went over and checked the underlying data, were not called to the stand.

Counsel for the defendant public authorities objected strongly to the admission of these documents, contending that they were not "books of original entry" but only memoranda of secondary entry, made up by persons not called to the stand, regarding work done and outlays made by persons likewise not called to the stand.

The Circuit Court held that the proffered statements of receipts and expenses were admissible, that the clerks and accountants need not be called, and that the vouchers need not be put in evidence. The Court held that it was enough if the vouch-

ers, papers, and records were available, and *if the defendants had had access to them.* As this had been done, the Court held the complainant's mode of proof sound and correct and based judgment for the complainant upon it.

The Opinion said, in part (91 Fed. 58-9):

> "The objection cannot be sustained. To have called each of the clerks would have added very little to the trustworthiness of the evidence. No clerk conducted any entire investigation, but various details were placed in the hands of 40 or 50 different employees, and each contributed his computation to the general result. No clerk could have testified that the tables were correct, for the reason that they were not made by him; neither could any single clerk testify that the figures from which the tables were compiled were correct, for he only contributed a small fragment to the general result. The method adopted was the only practicable one for conducting the investigation. It would have been absolutely impossible for any one man to have compiled the general result without delaying the case for years. A reasonable safeguard against falsification in the preparation of such statements is furnished by placing the records from which they are compiled freely at the disposal of the adverse party. It was the duty of the companies to do this, and to give the attorney-general the fullest assistance in explaining such records, and to allow him to place the same in the hands of expert accountants, if he so desired, for the purpose of detecting error or falsification in the testimony as prepared by the companies. The record shows that this was done throughout the taking of the testimony in these cases. We must assume that the at-

torney-general was satisfied of the correctness of the testimony from the fact that he declined to investigate its trustworthiness."

In *Feuchtwanger vs. Manitowoc Malting Co.* (187 Fed. 713, 109 C. C. A. 461), the Court held:

> "Regular entries in due course of business are admitted as exceptions to the hearsay rule. Wigmore on Ev. c. 51. To bring entries within the exception there must appear, according to the general law of evidence, a practical necessity for their introduction and a circumstantial guaranty that the transactions actually took place as recorded. The practical necessity is apparent in large mercantile and manufacturing businesses, where a transaction that has been participated in by numerous employees in the course of their employment is duly recorded as an original entry in permanent form by one who is charged with that duty in pursuance of an established system. Wigmore, Sec. 1730."

The same principle was recognized and applied in

State vs. Stephenson, 69 Kan. 405;
Corkran Meloney vs. Rutter, 76 N. J. L. 375;
Squires vs. O'Connell (Vt.) 99 Atl. 269;
San Pedro Lumber Co. vs. Reynolds, 121 Cal. 74;
Fielder vs. Collier, 13 Ga. 496;
Schaefer vs. Ga. R. R. Co., 66 Ga. 39;
Minnesota Cattle Co. vs. Chicago & N. W. Ry Co. (Minn.), 122 N. W. 493, 494;
Heike vs. United States, 193 Fed. 83;
Donovan vs. Boston & Maine R. R. Co., 158 Mass. 451;

St. Louis & S. F. R. R. Co. vs. Sutton, 169 Ala. 389;
Insurance Co. vs. Railway Co., 138 S. C. 42;
Hitchner Wall Paper Co. vs. Penna. R. R. Co., 158 Fed. 1011, 1014;
Louisville & Nash. Ry. Co. vs. Daniel, 122 Ky. 256;
Meyer vs. Brown, 130 Mich. 449;
Naas vs. Chicago, R. I. & P. Ry Co. (Minn.), 104 N. W. 717;
P. C. C. & St. L. Ry. Co. vs. Chicago, 242 Ill., 179;
Reyburn vs. Queens City Savings Bank & Trust Company, 171 Fed. 609;
Continental Bank vs. First Natl. Bank, 108 Tenn. 374;
Wisconsin Steel Co. vs. Maryland Steel Co., 203 Fed. 403;
Chesapeake & O. R. R. Co. vs. Stojanowski, 191 Fed. 720.

The Rulings of Ex-Justice Hughes in the Brooklyn Borough Case

In the suit of the Brooklyn Borough Gas Company against the same public officers as are defendants in this suit, brought in the Supreme Court of the State of New York to enjoin the enforcement of an eighty-cent rate prescribed by law, ex-Justice Charles E. Hughes, as Referee to hear and determine, ruled as follows as to the form in which evidence concerning receipts and expenditures should be received in evidence (Case on Appeal, *Brooklyn Borough Gas Co. vs. Pub. Serv. Commn.,* vol. II, pages 691-696):

"*By Mr. Bassett:*
"Q. Miss Dillon [the company's office manager], have you prepared annual sheets of operating figures?
"A. Yes, sir, I have.

"Q. From 1898 to 1916?

"A. Yes, sir.

"Q. Have you taken these from the books of the Company?

"A. Yes, sir, I have.

"Q. How long have you been connected with the making of the entries of these operating figures in the books?

"A. I made some of the entries prior to 1910 but not all of them.

* * * * *

"*Mr. Bassett:* I offer these two sheets of operating results, beginning with the year 1905, and from then on.

"*Counsel to the Commission:* I am obliged to object prior to January 1st, 1914.

"*The Referee:* I think the witness has given sufficient evidence to justify their receipt.

"Objection overruled.

"*Counsel to the Commission:* Exception.

(Two sheets last above referred to received in evidence as Plaintiff's Exhibit No. 25)."

In point of fact, no vouchers of expenses or receipts were ever produced in Court, although the defendants' representatives were given access to them at the company's offices throughout the trial. The plaintiff's direct case was completed without any of the books having been brought before the referee. Operating figures for the years deemed confiscatory were proved by transcripts from the books. Finally, on one of the last days of the trial (Printed Record, pages 803-7), the books were brought to court and to some extent examined, *but they never were put in evidence.*

Over objection, the complainant was permitted to prove operating results from 1892 to 1905 (before there was any Public Service Commission) by proving the correctness of the balance sheets taken from books not produced.

Prior Suit of the Consolidated Gas Company.

At the hearings before the Master on the trial of the prior suit, various schedules of summaries of facts concerning the finances, property, operations, revenues and expenditures of the Consolidated Gas Company were received in evidence by the Master, over the objection of the counsel for the defendants, without even the production of the books, the Master ruling that such schedules should be received but that the books from which they were summarized should be made available to the defendants.

Mr. Robert A. Carter, then secretary to the Consolidated Gas Company, after describing the offices held by him, was permitted to testify to and put in evidence statements taken from the company's books concerning its property and gas sales. Mr. Burr, in behalf of the defendant The City of New York, asked some questions on cross examination "with regard to the books of the company, and something as to the methods of accounting." At a subsequent hearing there was introduced by Mr. Carter a summary of the operations of the Consolidated Gas Company for the nominal year ending October 31, 1905, the questions and answers being as follows:

> "Q. Have you prepared, Mr. Carter, a summary of the operations of the Consoli-

dated Gas Company for the nominal year ending October 31, 1905, stating in detail the amount of material used and other items of manufacture and distribution?

"A. Yes, sir.

"Q. Is that the paper?

"A. That is the paper.

"Q. In the paper which I have shown you the next to the last column is headed 'Cost per thousand c. f. made'; that means cubic feet made, does it?

"A. Per thousand cubic feet made, yes, sir.

"Q. And does that indicate the cents per thousand which each one of these items represents on the make of the company?

"A. Yes, sir.

"Q. While the final column is headed 'Cost per thousand cubic feet sold'?

"A. Yes, sir.

"Q. And similarly that represents the cents per thousand on each of the items on sales?

"A. Yes, sir.

"*Mr. Mathewson:* I offer this in evidence.

"*Mr. Burr:* Same objection as I have made to all these statements.

"*The Master:* Same ruling; exception.

"Received in evidence and marked Complainant's Exhibit 93."

(Transcript of Sup. Ct. Record in prior suit, Vol. II, pages 730, 827-828.)

The objection thus referred to is amplified in a previous objection (pages 825-826 of the record), to an offer in evidence made by Mr. Mathewson of a comparative, condensed balance sheet as of October 31, 1905, and November 11, 1884, as follows:

"*Mr. Burr:* Same objection to this as made to all these papers heretofore offered purporting to be statements from the books, on the ground that they are not the

best evidence, and I understand you receive them subject to an opportunity being afforded us to verify the statements contained in these summarized statements.

"*The Master:* Yes, I understood that was the arrangement.

Mr. Gaus: That will apply to all summaries offered in this form, so I assume we need not in each instance state the condition under which the paper is received.

The Master: No, it is not necessary.

Mr. Mathewson: The offer just made is from pages 2213 and 2214 of the record before the Gas Commission.

Objection overruled; exception.

Received in evidence as Exhibit 89, but not marked." (Transcript of Sup. Ct. Record, Vol. II, pages 825-6.)

Another instance of the ruling of the Master in the former suit which was in no way deemed exceptionable by the Circuit Court or by this Court, is furnished by the receiving in evidence of a summary of operations for the calendar year 1905. (Transcript, Sup. Ct. Record in prior suit, Vol. II., page 840). It will be noted that the foregoing rulings were made and upheld, even *before* the enactment of the Public Service Commissions Law in 1907 and before the books and accounts of gas corporations were kept in the form prescribed by the State authority and under its supervision.

Although there has not been a unanimity of view among the Judges of the Second Circuit in their rulings upon subsidiary questions involved in the rate cases brought by various gas companies, they have been in complete accord with the ruling in the instant case as to the admissibility of the books of account of public utilities. (*Kings County Lighting Co. vs. Nixon*, 268 Fed. 143, Hough, C. J.; *N. Y. and Queens Gas Co. vs. Newton*, 269 Fed. 277, Mayer, D. J.)

For fifteen years, proceedings brought by and against gas and other public utility companies have been heard and determined before the Public Service Commissions of New York State, and we know of no instance in which a utility's books and summaries made therefrom by auditors and accountants, have not been received in evidence subject to impeachment or correction and to examination of the underlying vouchers, slips, reports, etc. The regulatory commissioners themselves *invariably* treat the corporate books kept under their supervision, pursuant to the Uniform System of Accounts, as admissible in the utility's behalf and have permitted expert analyses and tabulations thereof. (See, for example, *Butler vs. Lewiston, A. & W. St. Ry. Co.* (P. U. R. 1916 D, pages 36-37.)

Defendants' Theory of the Reproducing or Duplicating of the Complainants' Accounting Records.

On several occasions, counsel for the defendants contended before the Special Master that the complainant had failed to bring itself within the principle of the *Keyes* case, because what was done there was to compile the schedules of receipts and expenses directly from the way-bills "and other records", whereas that was not done in this case. It fully appears, in this case, that the general books of account are compilations from records and memoranda of transactions and events of just such a nature. If any compilation had been attempted to be made from the primary sources of information for the purpose of showing, in summary form, either as the books of account showed for the complainant's entire business, or as Mr. Teele's schedules showed for the complainant's gas business, the revenues and ex-

penses and the operating results, the very same system of records and accounts, and the very same process of accounting would have had to be set up and followed as was set up and followed by the complainant in the regular course of its business. In other words, it would have required about the same accounting forces and the same development of the records from the voucher stage to the Operating Ledger, with all the intermediate entries and checks upon their correctness, as already existed and this course would have taken just as long a time as it took the complainant to make up its sets of accounts. The simpler and more expeditious course was, obviously, to check the present accounting records as to accuracy and reliability, rather than to duplicate it.

All Witnesses Whom the Defendants Desired Were Produced.

The complainant did not seek to rest its proof of receipts and expenditures—in other words, the financial aspects of its gas operations—solely upon the entries in the books offered. The complainant did not ask to have the books admitted in lieu of all other proof upon the contested issues of fact, and expect to rest its case solely upon them. The complainant produced underlying documents, as deemed necessary, and produced corroborative proof upon the principal elements and issues. Nearly all of its executive officers, many of its directors, its engineer of gas manufacture and assistant (and acting) engineer, the head of its accounting division, several engineers and many of its employees were called as witnesses, and their examination and cross-examination covered every phase of the complainants' business.

POINT V

THE PROOFS SUSTAIN THE FINDING THAT THE APPELLEE'S BOOKS AND ACCOUNTS WERE KEPT IN COMPLIANCE WITH THE UNIFORM SYSTEM OF ACCOUNTS PRESCRIBED FOR THE APPELLEE BY THE DEFENDANT PUBLIC SERVICE COMMISSION. IF THE COMMISSION BELIEVED THERE WAS ANY SUBSTANTIAL VARIANCE, IT POSSESSED THE POWER AND DUTY OF INITIATING PROCEEDINGS TO COMPEL COMPLIANCE.

The brief of the appellant Newton devotes a long discussion to this contention (Point XVI, pages 322-345). In view of the fact that the findings of the Court below as to revenues and expenses were, for production expenses, the figures shown in the report of the *defendants'* accountant, Sangster, as the cost of production at plants A and C of the Astoria Light, Heat and Power Company, taken by him, with adjustments, from the books of account of that company, which were introduced in evidence by the *defendants* below; and were, for distribution and other general expenses, the figures taken largely from the table of "*Adjusted* Cost of Production and Distribution" put in evidence by the *defendants'* witness Weber, extended discussion as to whether the books of account of the complainant did conform to the regulations of the defendant Public Service Commission prescribed in its Uniform System of Accounts for Gas Corporations may be academic. However, the emphasis laid upon this contention by the appellants prompts counsel for the appellee to reply to it specifically.

Answering Appellant Newton's Brief, Pages 337-339.

As a fair illustration of the misleading character of the statements by the appellants under this point, we desire to refer to the comparison on pages 338-339 of the appellant Newton's brief, made between the figures purporting to appear in the books of account of the complainant and the figures purporting to appear in the annual reports made by the complainant to the Public Service Commission, from which the inference is made to appear that there are inconsistencies due to the incorrectness of the figures recorded in the books of account. Not one of the half-dozen accountants who testified in behalf of the defendants averred that there was any such inconsistency. The differences between the sets of figures sought to be compared are due to an obvious unfamiliarity with what is included in the book account groupings and what is included in the annual report groupings. As Appendix B (page 493-95, *post*), there is attached to this brief a schedule showing the complete harmony between the figures shown in the books of account of the complainant and the figures shown in its annual reports, and the utter baselessness of the claim of error in the books.

Answering Appellant Newton's Brief, Pages 322-326

Section 66, Subdivisions 5 and 9 of the Public Service Commissions Law of the State of New York, as it was prior to its amendment in 1921, provided:

> "Each Commission shall within its jurisdiction: * * *

"5. Examine all persons, corporations and municipalities under its supervision and *keep informed as to the methods, practices, regulations and property employed by them in the transaction of their business.*

"9. Have power to examine the accounts, books, contracts, records, documents and papers of any such corporation, person or municipality, and have power, after hearing, to prescribe by order the accounts in which particular outlays and receipts shall be entered, charged or credited."

Subdivision 6 of the same section required gas corporations to file verified annual reports, and also provided:

"When any such report is defective or believed to be erroneous, the commission shall notify the person, corporation or municipality making such report to amend the same within a time prescribed by the commission."

On December 8, 1908, the Commission established a "Uniform System of Accounts for Gas Corporations" (Complainant's Exhibit 15). This Uniform System of Accounts was changed by the Commission in twelve years but once, by an order made on June 29, 1917, which modified in certain respects paragraphs 9 to 22 of the Uniform System of Accounts relating to "Capital Accounts" (Complainant's Exhibit No. 16).

Also acting under its authority, the Public Service Commission, for each year since its establishment on July 1, 1907, has prescribed a form of annual report required to be made by gas corporations. These annual reports, both of the Consolidated Company and the affiliated gas companies, were placed in evidence by the defendants

(Record, pages 10,297, 10,298, 10,310, 10,303, 10,944, 11,276, 11,297, 10,306, 10,310, 10,313, 10,323, 10,377, 10,300, 11,297, 13,871, 10,305, 10,376, 10,323, 10,943, 10,945). The annual report is prescribed by the Commission *not in advance of the year* which it is to cover, but at the *end* of the year. In each year, the commission has changed the details of the form of annual report prescribed, in some instances extensively and radically. The result has been that, while a gas company may for a given year have kept its records and statistical data with such detail as to be readily transcribed into the annual report on the form *theretofore* prescribed by the Commission, the changes in the next form of annual report for the preceding year necessitate new and different aggregations of entries in the accounts and other records. The commission has never given a hearing to the gas corporations on the form of annual report prior to its adoption, and the companies have had no choice but to follow it.

Answering Appellant Newton's Brief, Pages 326-331:

Mr. Brundage, the secretary of the complainant company who has had most extensive experience as an accountant, and who participated in the formulation of the Uniform System of Accounts and is thoroughly familiar with the accounting procedure of the complainant, testified that the accounts of the complainant "are kept in the form required by the Uniform System of Accounts with the exception of a few minor points with which the Commission is familiar." The exceptions, which Mr. Brundage set forth at pages 1477-1479 of the Record, related to *addi-*

tional or *divisional* accounts kept by the company as permitted by the provisions of the Uniform System of Accounts. They were not accounts embracing entries which are required to be made under other or different accounts prescribed by the Public Service Commission, but were set up for the purpose of showing, under the general classification, the details of transactions falling under certain sub-heads. In fact, not only was the Commission generally cognizant of the fact that these subdivisional accounts were maintained by the complainant, but, at its own request, specific information was filed by the complainant with the Commission in a schedule setting forth all the accounts which complainant kept on its books on July, 1909, with the exception of its accounts with individual consumers, as long ago as September 2, 1909 (Defendants' Exhibit AA-191, Record, page 10,688). As appears by this schedule, there are instances of necessary subdivisions which in no way involve a violation of the Uniform System of Accounts.

If the company misconstrued the spirit or even the letter of the requirements of the Uniform System of Accounts in not filing with the Commission a notice *formally* directed to the fact that it was maintaining these additional or subaccounts, what can be said of the inertia of the Commission when it was conscious of the fact?

People vs. Dempsey, 224 N. Y., 140, 148.

In the *Dempsey* case, the New York Court of Appeals, construing the meaning and effect of the provisions of the Public Service Commissions Law and a regulatory order made by the Commission in pursuance thereof, held that the facts in connection with the conduct of an officer of a

public utility between the date of the order and the alleged violation thereof, the reports made by the corporation to the Commission relating to or bearing upon the execution of the requirements of the order, the acts performed in pursuance of the requirements of the order, "*the knowledge of the commission thereof and the absence of criticism by the commissioners in relation to such conduct,*" "as well as conversations with the commissioners relating to the actions of the corporation in relation to the subject" covered by the order, "*or any acts on the part of the commission charged with the enforcement of the order bearing upon the manner in which the same was treated by the commission and their knowledge of the manner in which the corporation and defendant were acting in relation thereto,*" were competent matters for consideration upon the question of whether the order of the Commission had been violated.

Answering Appellant Newton's Brief, Page 332.

The discrepancies between nomenclature employed in the Uniform System of Accounts and that used in the forms of annual reports are to some extent used by the defendants to give semblance to their criticism that the complainant has not conformed to the Uniform System of Accounts. For example, the Uniform System of Accounts (Complainant's Exhibit 15, page 15) prescribes an account entitled "(231.) Trunk Lines and Mains." The appellants refer to the testimony that the Company, instead of carrying an account "Trunk Lines and Mains" carries an account "Street Mains." Mr. Brundage, the Assistant Secretary of the company, testified (Record, pages 1747-1748) that the complainant

charged to the account, which it called "Street Mains," the identical charges directed in the Public Service Commission's rules under the title of "Trunk Lines and Mains;" that the term "Street Mains" is as old as the gas business, and that the Public Service Commission had never objected to the designation "Street Mains" instead of "Trunk Lines and Mains."

In point of fact, the complainant is not the only one taking the liberty of using these titles interchangeably. The Public Service Commission in its annual report, which attempts to follow closely the titles of its own Uniform System of Accounts, uses the title "Street Mains and Pipe Lines (231)" (*e. g.*, Annual Report for 1918, page 47; Record, page 10,945).

Another criticism by the appellants is the variance between the title prescribed by the Uniform System of Accounts for *rented* gas appliances and the title used by the company. The Uniform System of Accounts prescribes a title "(236.) Gas Engines and Appliances" (Uniform System of Accounts, Complainant's Exhibit 15, page 16). The Consolidated Gas Company does not rent to consumers any *engines*, but does rent *appliances*, and it carries an account "Gas Appliances Rented" (Rec., pages 1748-1749, folios 5244-5245). The form of *annual report* prescribed by the Public Service Commission does not use the same term "Gas Engines and Appliances," which is prescribed by the Uniform System of Accounts, but uses the term "Gas Appliances (236.)" (*e. g.*, form of Annual Report for 1918, page 46). This criticism was entirely dispelled by the testimony given by Mr. Brundage upon the cross examination by the counsel for the Pub-

lic Service Commission at Record, pages 1748-1750, and yet appellants persist in the baseless charge that the complainant has not in this respect been complying with the Uniform System of Accounts. The examination also discloses the failure of appellants' counsel to grasp the difference between the account relative to the *rental* of gas engines and appliances, both being used synonymously, and the *plant* account relative to the *installation* of gas engines in the manufacturing plant of a gas company.

Another unfounded specification of the charge of non-compliance by the complainant with the Uniform System of Accounts, made by the appellants, is that the account called by the Uniform System of Accounts "Office Equipment" is kept by the complainant as "Furniture and Fixtures." The assertion of fact by the appellants that the Uniform System of Accounts prescribed a principal account entitled "*Office* Equipment" is unfounded. The Uniform System of Accounts (Complainant's Exhibit 15, page 12) provides: "G. 122) ***General*** **Equipment. Charge to *this account* the cost of all equipment of general structures, as provided under the following heads:**

(*a*) General Office Equipment:

* * * * * *

(*b*) General Shop Equipment:

* * * * * *

(*c*) General Store Equipment:

* * * * * *

(*d*) General Stable Equipment:"

* * * * * *

In response to a direction by the Commission on September 10, 1909, that the complainant file with the Commission—

> "1. A list or schedule of all the accounts which are kept on its books on July 1, 1909, with the exception of its accounts with individual consumers"

the complainant filed such a schedule (Defendants' Exhibit AA-191; Record, page 10,688, fol. 32,063), showing the title of each account prescribed by the Public Service Commission and the title of the corresponding account kept upon the complainant's books. As appears by this schedule, for the account entitled by the Commission "General Equipment" the company kept corresponding accounts subdivided as follows:

> Office Furniture and Fixtures
> Tools and Implements
> Stable Equipment
> Automobiles and Accessories.

No objection or criticism was made by the Commission, during the more than ten years which followed, against the course of the company in subdividing the account prescribed by the Commission so as to show the several classes of property owned by the company coming within the general classification of General Equipment.

Answering Appellant Newton's Brief, Pages 332-334:

An effort is made by counsel for the appellants to show that because the complainant does not carry an account entitled "Corporate Surplus and Deficit Account," but does carry an account entitled "Profit and Loss," it was failing to comply with the order of the Commission. In the course of his testimony Mr. Brundage testified that—

> "The uniform system of accounts fails to provide an account divisible into surplus, profit and loss, or any corresponding term,"

that the company did keep a Profit and Loss account, and that the Commission, while referring to "surplus" in several passages of the Uniform System of Accounts, made a serious omission in failing to provide for a Profit and Loss Account (Record, page 1759). Notwithstanding the provisions of Section 24, page 59 of the Uniform System of Accounts (quoted in appellant Newton's brief, at pages 333-334), the fact still remains that nowhere in the Uniform System of Accounts is there a requirement that a gas corporation should set upon its books an account entitled "Profit and Loss" or a corresponding account as that account is understood in accountancy practice. In the section of the Uniform System of Accounts quoted, under the title "Appropriations," there are *references* to "Corporate Surplus or Deficit" account, but nowhere is such an account *defined* as is every other account which is prescribed. That the Commission never required the keeping of even a "Corporate Surplus or Deficit" account is attested by the fact that the "List of Accounts" at the end of the Uniform System of Accounts for Gas Corporations (Complainant's Exhibit 15) makes no reference to an account entitled either "Profit and Loss" or "Corporate Surplus or Deficit."

Answering Appellant Newton's Brief pages 377-339.

Another matter referred to by the appellants is an imagined variance between the books of account and the annual report. As already pointed out, the form of annual reports is always prescribed *at the end* of the year which it is supposed to cover and the forms have been changed from

year to year so that it usually became necessary in making up the annual report to combine or segregate items in the general or subsidiary records in order to furnish the information called for. The defendants' *accountants* have not in any instance been able to show that an item reported in the annual report was not also recorded in the books of account. The mere fact that the footing of an account bearing a certain caption in the books of account does not agree with a footing bearing a similarly sounding caption in the form of annual report but made up of different items, is not indicative of any variance between the books of account and the annual report. Much ado is made about the testimony of Mr. Carter at pages 10,680 to 10,682 concerning the amounts reported for salaries and expenses of general officers in the 1917 annual report of the complainant to the Public Service Commission and the amount recorded in the account.

A perfectly simple and plain explanation was given by Mr. Carter which completely refuted any suggestion of irreconcilability between the annual report and the books of account, as appears by the testimony of Mr. Carter, upon cross examination (Record, pages 10,688-10,689) as follows:

> *By Mr. Clark:*
>
> "Q. On page 6, Mr. Carter, opposite the title as prescribed by the Public Service Commission, 'Salaries and Expenses of General Officers,' appears on this schedule the title supposed to be carried in your books of 'Salaries and Expenses of General Officers.' Can you find any such account in 1909? A. We find two subaccounts that furnish that information.
>
> Q. There isn't any account under that title? A. There is an account 'General Of-

ficers Salaries,' and an account 'General Officers Expense,' and they are kept in two subdivisions, the combined account is the general officers' salaries and expenses.

Q. In 1917 there was something else in there which you could not account for this morning? A. Yes, $166 out of the $130,000.

Q. It is just as difficult to check up, isn't it, if you are $166 out as if you are $166,000 out? A. There is nothing at all to it, there is no difficulty about checking it, and your people can check it in two minutes.

Q. *Don't understand me to question the accuracy of your accounts?* A. *Your question implied it.*

Q. But the fact is that if the Public Service Commission attempted to check this figure, they would have just as much difficulty, without the information which they would have to get from some one up there, to check this $166 as to check $166,000? A. They could not check any item—

Mr. Ransom: I object to this line of inquiry as not bearing on this case. Dr. Weber cannot come here and stand at the elbow of special counsel and say he did not do his duty all these years.

Mr. Clark: It is not a question of Dr. Weber doing his duty. They said they kept this account in 1909, and it appears they did not.

The Witness: *During thirteen years* there has not been an occasion when the Commission could not check every item reported by the company in the annual report to the Commission." (Italics ours.)

The appellants would discern "further evidence" of the complainant's failure to comply with the Uniform System of Accounts in the fact that the purported book figures appearing in *Defendants'* Exhibit AA129 (Record, page 10,404), which is entitled "Details of Accounts Included

in Operating Expenses, 1906 to 1908" prepared by the statistician of the Commission, do not agree with totals reported in the annual reports. Defendants' Exhibit AA129 purports to be a transcript made by the statistician of the Commission from the complainant's *General Ledger*. It is a curious circumstance that the complainant did not at first put the General Ledger in evidence (Record, pages 3,018-3,019), and that, when the complainant did offer it in evidence, the defendants objected and the objection was sustained (Record, pages 3,181-3,182). At the request of the defendants, the book was marked in evidence as Defendants' Exhibit V for Identification (Record, pages 3182-3183). Although this book was never received in evidence as an exhibit and is not one of the *supporting* books or records of the books of account placed in evidence, the defendants placed in evidence an exhibit made up from this General Ledger (Record, pages 10,402-10,403). However, the cross examination of the Commission's statistician who placed Defendants' Exhibit AA129 in evidence (Record, pages 10,669-10,678), disclosed a number of substantial errors in the composition of this exhibit. He testified that, although the exhibit was entitled "Details of Accounts included in Operating Expenses, 1906-1918" he did not intend by the exhibit to show what it cost to manufacture and distribute gas during the different years from 1906 to 1918 (Record, page 10,669). He omitted to include the items of taxes, interest on taxes, and renewals and replacements (Record, pages 10,671-10,672). The exhibit did not include items of expenditure made in one year but applicable to another year, which are shown in the adjustment of the Profit and Loss account of the

year (Record, pages 10,675-10-676). At this point of the record other serious errors in transcription of figures by the witness were exposed. An item of $167,000 was shown in his computation as only $67,000, or an error by him of $100,000 (Record, page 10,674). A figure in the books for six months was put down by the witness in his exhibits as representing a whole year (Record, pages 10,666-10,667). An item of $175,703.43 was converted in his exhibit to $114,558.39 (Rec., p. 10,668). A total of $5,951.29 was incorrectly stated at $3,003.95 (Record, pages 10,673-10,674).

A comparison is sought to be made in the appellant Newton's brief between the amounts reported under certain titles in the complainant's annual report to the Commission for the year 1909 (Exhibit AA-245) and the amounts shown in the "Book Accounts Exhibit AA-129" taken from the General Ledger, under titles of accounts which do not correspond with the titles used in the annual reports and the details of which differ from the details comprehended in the annual report titles. For example, amounts reported in the annual report under the titles "Salaries and Expenses of General Officers," and "Salaries and Expenses of General Office Clerks," are attempted to be compared with the amount in the book account "Salaries, General Office;" the amount reported under the title in the annual report of "General Law Expenses" is sought to be compared with the book account "Legal Expenses." Of course, there can be no comparison between totals made up of different components. The order made by the Commission on December 8, 1908, prescribing a uniform system of accounts (Complainant's Exhibit 15) provided that—

> "During the year beginning January 1, 1909, any such corporation may for purposes of comparison with prior years keep on its books any account pertaining to revenues, revenue deductions, income deductions, and appropriations (as defined in the said 'Schedule B') which it had on its books during the year begun January 1, 1908."

The complainant was thus permitted to carry upon its books of account during the year 1909 the same accounts pertaining to revenues, expenses and income as it kept before the Uniform System of Accounts was prescribed, and the totals of such accounts, as made up before the Uniform System of Accounts was prescribed are not comparable with the totals reported in the annual reports under different titles and not comprehending the same details as the book accounts.

Answering Appellant Newton's Brief, Pages 339-340:

The further point has been raised as to the Commission's account "accrued amortization of capital." Through prescribing an account under this title and directing outlays to it, the Commission tried to *compel* the Company to set aside funds for a "depreciation reserve" of the kind desired by the Commission. For this account, the complainant and the other companies make no entries, because the companies do not treat their outlays for "renewals and replacements" in this way. *The Company keeps no such account because it makes no outlays.*

Finally, the Commission tried to compel one of the public service companies to keep such an account and make entries to it accordingly. The Court of Appeals held (*People ex rel. N. Y. Rys.*

Co. vs. Public Service Comn. for 1st Dist., 233 N.Y. 373) that the Commission had been empowered to direct the accounts to which particular outlays by the company should be credited, but had not been empowered to *compel* a company to *make outlays* for a particular kind of a depreciation reserve.

So this company has made no entries of outlays under "Accrued Amortization," because

(1) It makes no outlays coming within the Commission's definition; and

(2) The Court of Appeals has held that it and other companies cannot be compelled to make such outlays.

The complainant, therefore, handles the matter under the proper heading of "Renewals and Replacements" and credits there its outlays for such purposes. This matter is discussed in greater detail under Points XVI and XVII, on pages 356 to 449 of this brief.

Answering Appellant Newton's Brief, Page 341:

The appellants suggest (Appellant Newton's brief, page 341) that—

> "Considering the magnitude of the company's real estate interests outside of gas real estate, the company should have set up another group of operating accounts co-ordinate with gas operations, and included therein the revenues and expenses from such 'outside' operations."

If there has been such an omission on the part of the complainant, it is due to the failure by the Commission to provide for a co-ordinate set of accounts.

Answering Appellant Newton's Brief, Pages 341-343:

The crux of the whole argument attempted to be advanced by the appellants in support of the charge that the complainant has not complied with the Uniform System of Accounts, is, however, stated at pages 341 to 343 of the appellant Newton's Brief, where it is contended that because, in defining the term "'Operating Expenses," the Uniform System of Accounts refers to "such expenses as are necessary" (Sec. 14, page 36), it was incumbent upon the complainant to prove that each expenditure of which an entry appears in its books of account was "necessary," and that, in default of such evidence, the complainant has failed to prove compliance with the Uniform System of Accounts. This argument is exemplified in the testimony of Mr. Weber, Chief Statistician of the Commission, who made up an argumentative table marked defendants' Exhibit AA 465 entitled "Adjusted Cost of Gas Distributed in the Year 1918," in which upon various hypotheses (*e. g. if* oil had been bought at about 3 cents per gallon *instead* of at about 6 cents per gallon, making a difference in the cost for this item alone of 12 cents per thousand cubic feet of gas) he arrived at an *imaginary income* for the year 1918 of $2,948,482.03 by one process, and $5,121,471.49 by another. Mr. Weber explained that, in the composition of his table, Exhibit AA 465, he excluded items that *he* did not think were "proved" (Record, page 13,780).

If such a meaning and intent may be attributed to Section 14 of the Uniform System of Accounts, then it is plainly unconstitutional, since it attempts to displace the owners of the property

from their management, operation and enjoyment and to substitute the whim, caprice and theory of the statistician of the commission. The Court of Appeals of the State of New York has definitely construed the provision of the Public Service Commission's Law to vest no such power in the Public Service Commission. In the case of *People ex rel. Delaware & Hudson Co. vs. Stevens*, 197 N. Y. 1, the Court had under construction the provision of the Public Service Commissions Law authorizing a carrier to issue securities "*when necessary* for the acquisition of property," etc., provided there shall have been secured from the proper commission an order authorizing such issue and stating that in the opinion of the commission the use of the capital to be secured "is *reasonably required* for the purposes of the corporation," the Court said (197 N. Y. 1, 10):

> "We do not think the legislation alluded to was designed to make the commissioners the financial managers of the corporation, or that it empowered them to substitute their judgment for that of the board of directors of stockholders of the corporation as to the wisdom of a transaction."

Answering Appellant Newton's Brief, Pages 343-345:

It is argued by the Appellant Newton (Brief, page 343) that—

> "The Master's supposition that conformity with the Uniform System of Accounts would prove the accuracy of complainant's books, and that failure of the Public Service Commission to enforce the law leaves a presumption that the law has been complied with is almost too absurd to be refuted."

The Master's finding (Finding No. 18) that the books of accounts of the complainant accurately set forth the facts therein contained is not based merely upon their conformance to the Uniform System of Accounts, but upon most elaborate proof of the accounting system followed, the independent audits made annually, and the extensive examination, checking, verification and testing of the entries in the books of account by Mr. Teele, an expert accountant. After all these months of trial, the defendants were unable to show any error in any entry in the books of account or records which was not promptly corrected through the ordinary accounting system of proving up entries.

POINT VI

THE DISTRICT COURT LEFT THE APPELLANTS (DEFENDANTS BELOW) WITH NO GROUNDS FOR ASSIGNMENT OF ERROR BECAUSE OF HIS TREATMENT OF TAXES CHARGEABLE TO OPERATING EXPENSES; ON THE CONTRARY, THE DISTRICT COURT ELIMINATED MORE THAN FOUR CENTS PER THOUSAND CUBIC FEET OF GAS SOLD, FROM THE TAXES ACTUALLY LEVIED AND PROPERLY CHARGEABLE, BUT STILL THE 80-CENT RATE REMAINED CONFISCATORY BY WIDE MARGIN.

We have already commented on the course adopted by the District Judge of first seeing, experimentally, how far he could possibly cut the appellee's operating costs, on pretexts at all plausible. In the item of taxes, this rigorous policy of resolving everything adversely to the company led to assumptions altogether unwarranted. The learned Special Master endeavored to ascertain the fair allowance for taxes; the District Judge tried to see how low the tax figure could be reduced. Certainly he left to the appellants no grounds for claiming an excessive allowance for taxes.

The actual expenditures of the appellee alone, for taxes chargeable to operating expenses, was 6.75 cents per thousand in 1918 and 6.25 cents per thousand during the first eight months of 1919. The actual figure, as of early 1920, was 6.75 cents for the appellee alone, or taking into account the taxes on Astoria properties and operations in making gas for the appellee, 10.90 cents (Complainant's Exhibit 501; Record, page 17,432), or 9.76 cents with the controverted item of real es-

tate of corporations taxes eliminated. The Special Master reduced this figure, by a computation which we shall show was in no way warranted, to 7.5 cents per thousand cubic feet (Finding No. 56; Record, pages 36a, 55a). This was bad enough, but the District Judge, in his quest of the most rigorous way of resolving all things adversely to the company, reduced the actual figures to 6.28 cents for 1918 and to 5.85 cents for the first eight months of 1919 (Record, page 70a). He did not intimate that acceptance of any such thing would be fair or defensible, except as a significant demonstration of the extreme of adherence to the defendants' views, but the appellants still complain because the tax items were not stricken almost completely from the appellee's operating costs.

The complainant's accounts respecting its taxes are kept in accordance with the requirement of the Public Service Commission's uniform system of accounts (Exhibit 15; Record, page 16,016). The amounts charged for each kind of tax are required to be shown separately, and to each account is charged monthly the amount of taxes actually accruing during the month, or an estimated amount of taxes apportioned to the month based upon the estimated total tax for the year, with a correcting or adjusting entry in the last month of the year so that the total amount charged for each tax corresponds with the amount actually assessed by the public authorities.

Taking the year 1918 for illustration, the taxes actually assessed against the property of the complainant used in the production and distribution of gas were as follows (Exhibit 205; Record, page 16,362):

New York State gross earnings tax	$ 78,473.86
New York City special franchise tax	384,297.90
New York City real estate corporation tax	155,122.20
New York City real estate tax	462,171.55
New York City personal tax	23,300.00
United States capital stock tax	24,807.38
Interest on unpaid taxes	88,655.17
	$1,216,828.06

This amount was 6.75 cents per thousand cubic feet sold (Exhibit 364; Record, page 16,629). To this sum should be added 4.15 cents per thousand cubic feet representing taxes paid by the Consolidated Gas Company upon the property of the Astoria Light, Heat and Power Company and the New York Mutual Gas Light Company used in the production of gas purchased by the Consolidated Company (Exhibit 501, page 17,452), making a total of 10.90 cents per thousand cubic feet.

As has been stated, both the Master and the District Court considered the Consolidated Company and the Astoria Company as one for the purpose of determining the reasonable cost of producing and distributing gas. The taxes for the Astoria Company for the same period (1918) were as follows:

Real Estate	$345,953.30
Gross Earnings	31,516.10
Personal	11,157.41
Capital Stock	8,541.50
Excess Dividends over 4%	6,000.00
Special Franchise	321.73
Federal Income	192,594.01
	$596,084.05

The Master found that by consolidating the two companies, the gross earnings tax of the Astoria Company would be eliminated, and also the tax on excess dividends over 4%, and the Federal income tax. He then combined the two foregoing tables on said basis and produced a total of $1,608,627.92 as representing the probable total taxes of the two companies if combined. He then estimated 19 billion cubic feet as the sales for 1920 and applying that to the 1918 taxes computed by him, produced 8½ cents per thousand cubic feet. Had he used the actual sales for 1918 as proved by the company the result would have been nearly 9 cents per thousand cubic feet. He then deducted the entire real estate of corporations tax imposed by the City of New York amounting to $155,122.20, noted some possible deductions for unpaid franchise taxes, arrived at the figure of 7½ cents (which, on a spread of 19 billion feet of sales for 1920, would produce $1,425,000 as the allowable tax item), and adopted that figure as correct (Master's Opinion; Record, page 56a). In reaching this conclusion, however, the Master failed to take into account taxes on the one-half of the new Astoria water-gas unit which he had included in the rate base, and which would have increased the tax amount allowed by him by $54,225. He also failed to allow anything for additional taxes on real property which will follow the removal of the confiscatory rate and which will amount to at least $122,658.36. In fact, the figure allowed by the Master for taxes was many thousands of dollars less than the taxes actually paid by the complainant under the compulsion of the taxing authorities. The figure taken by the Master for this item was at least three cents less than any amount justified by the evidence.

The District Judge, adhering to his plan of first taking every possible doubt against the company, made further drastic cuts in the amounts allowed as taxes. He reduced the tax item on the Consolidated Gas Company's property alone from the actual figure of $1,216,828.06 to only $831,645.08. The total figure for taxes upon both Consolidated and Astoria property, as computed by the Court for the year 1918, amounted to only $1,255,967.37 as contrasted even with the figure of $1,425,000 found by the Master. Furthermore, the Court used upon this figure derived from *1918* taxes, a divisor of 20,000,000,000 as his estimate of the supposed sales for the year 1920 (Record, page 170a). This anomalous action yielded a tax allowance for the year 1918 of only 6.28 per thousand cubic feet sold, and for 1919, only 5.85 cents—scarcely more than one-half of the actual amount assessed against the property by the tax authorities and paid by the company.

We will now take up and consider in detail each class of tax dealt with by the Master and by the Court:

1. *New York State Gross Earnings Tax.*

This item was not disputed by the defendants, as to its amount or the propriety of its allowance. It is a tax levied by the State of New York pursuant to Section 186 of the Tax Law, and amounts to one-half of 1% upon gross earnings from all sources within the state.

The total amount of the tax, $117,270.90 for the year 1918, is shown upon Exhibit 205 (Record, page 16,362) and is divided between the gas business and operations not relating to the gas business in accordance with the division of the

company's property as shown by Exhibit 178 (Record, page 16,286). The tax was actually paid by voucher No. 18,265, which was produced in court upon the cross examination of Mr. Teele (Record, page 3073 *et seq.*). The division of this tax between operating and non-operating revenues, assigning to the former $78,473.86, likewise was not disputed, and the amount was allowed by both the Special Master and the Court.

2. *New York City Special Franchise Tax.*

This tax, peculiar to public service companies within the State of New York, has often engaged the attention of this Court. Admittedly the tax is of a character which makes it chargeable to gas operations (Record, page 3185 *et seq.*). The tax is based upon the value of the tangible property in the streets, together with the right to use the same as a public utility. The assessment in 1918 of this tax was $384,297, and in 1919 $190,658. These sums were allowed in full by the Special Master. Upon the claim of the defendant Attorney-General that part of these taxes was the subject of litigation and had not yet been paid in full, the Court allowed only 70 per cent. of these sums in its computation of operating expenses (Record, page 168a). The Court seems to have arrived at this conclusion from the fact that between 1906 and 1914 a settlement had been made with the City at an average rate of less than 64 per cent. and that in 1916, 1917 and 1918 the amounts paid were less than 70 per cent.

We think this reduction should not have been made. It is not disputed that these taxes were assessed against the company by the State taxing authorities, and, until set aside by a competent court, they stand as a liability of the com-

pany properly chargeable to operating expenses. There is no proof in the record of any action either of the State taxing authorities or any court reducing the amount of this tax. The defendant Attorney-General is doing all in his power to uphold the tax as levied. The special franchise tax for the year 1919 was in fact paid in full and there is as much reason for assuming from that fact that the 1918 as well as 1919 taxes were paid in full as there is for assuming that they would be reduced by 30 per cent. in those years because such a reduction took place as to some other years. The Court recognized the unfairness of its position, saying (Record, page 167a):

> "It would probably be unfair to credit the company with only 70% in the future in fixing a rate. Nevertheless I shall do so for the purpose of this case."

3. Real Estate of Corporations Tax.

This item, amounting in 1918 to $155,122.20, was eliminated both by the Special Master and by the Court. We believe this action to have been unwarranted upon the state of facts before the Court. This is a tax assessed by the City of New York upon the tangible property of public utility corporations in the streets and public places of the city. The amount is the exact amount assessed against the property of the company by the City for that year (Record, page 3187).

Payment of this tax was withheld by the company and contested on the ground that it is a duplication of the special franchise tax; that it should have been and still ought to be cancelled,

complainant not only admits but contends. Outside of this rate case the legal representative of the taxing authorities of the city and the state fail to take the view of the company. In this case, however, the Attorney-General and the District Attorney of New York County contended strenuously that because of the claim of the company that the tax was a duplication and the possibility that it might be cancelled in whole or in part by the court, it should be entirely eliminated from consideration in arriving at the cost of taxes. The inconsistency of this position is obvious. For the purposes of this case the tax is a valid operating charge in the company's gas business. If contest should result in the removal of the tax in whole or in part, it will be credited to operation at the time of removal; but in the absence of any such ruling (and the record shows no such ruling) or in the absence of a controlling admission by the defendants that the tax is invalid, it should be accepted here as an operating liability. If the special franchise tax should be to any extent successfully contested in the court, then to a corresponding extent the tax on the real estate of corporations would not become a duplication and surely would not be cancelled.

The Court's elimination of this tax from operating expenses made a difference of 1.14 cents per thousand cubic feet of gas sold (Exhibit 501; Record, page 17,452).

4. *Real Estate Taxes.*

These are the taxes assessed specifically against parcels of real estate used by the company in its gas business. They amounted in the year 1918 to $462,171.55 (Exhibit 205; Record, page 16,364). The propriety of the inclusion of

these taxes in operating expenses is not questioned, except in so far as the use of certain items of property for gas purposes is questioned by the defendants. The defendants contended in the Court below that at least $144,456.52 should be deducted from this tax on account of their claims that certain parcels of real estate were not used and useful in the gas business. The Court recognized this assertion claim to the extent of deducting from real estate taxes no less than $126,107.71 for 1918 and $84,297.52 for 1919 (Record, page 169a).

We discuss elsewhere (Point XII, pages 317 to 344, *post*) the propriety of the inclusion of these controverted parcels as used and useful property. *If we are correct in our contention that these parcels should not have been excluded from the "rate base," it follows that these items of taxes deducted by the Court should be restored.*

5. *Personal Tax.*

This amounted to $23,300 in the year 1918, and was accepted both by the Master and the Court. The defendants claim (1) that only one-third of this amount should be apportioned to the gas business (see cross examination of witness Howard, pages 13,728-13,739); and (2) that there being doubt as to how to apportion the tax, it should be entirely excluded.

The amount of this tax was included in Exhibit 205 on the authority of the tax bill rendered by the City to the company and paid by the company in the year 1918, based apparently upon an arbitrary assessment of $100,000 for that year (Record, page 3198). In the year 1919 the assessment was arbitrarily placed at $2,000,000 and

a petition was filed by the company for its reduction (Exhibit 375, Record, pages 6467 and 16,772). The original of this Exhibit 375 is upon a blank furnished by the State, showing the items to be deducted by the company from its assets, in determining the amount of tax. Comparing the statement of the assets (Record, page 16,773) with the amount of the deductions shows the amount of taxable property as claimed by the company in 1919 to have been $680,492.67 (Record, page 16,756). All of the "non-gas" items in the table of assets are balanced by specific deductions of such items in the deduction table. The remainder of the assets shown subject to tax are materials, horses, wagons, automobiles, scows, cash, accounts receivable, meters and connections, furniture and fixtures, tools and implements, appliances rented and services on private property aggregating $39,031,391.42. These items, all of them applicable directly to the gas business, would in the absence of further deductions be considered subject to the tax. They are, however, offset by other authorized deductions leaving the amount of $680,492.67, which can by no possible stretch of the imagination be assigned to any property except property used in the gas business. It being thus established clearly that the 1919 tax was levied upon gas property only, it is not a violent assumption to conclude that the 1918 tax was levied upon similar property. The Court found this to be an entirely legitimate inference. The cross examination of the only witness offered by the city on this point clearly demonstrates that any other attempt to apportion the tax is to indulge in speculation and conjecture (Record, page 13,728).

6. *United States Capital Stock Tax.*

This tax is levied pursuant to Section 407 of the Act of Congress of September 8, 1916. The correctness of the apportionment of the tax between gas and non-gas operations, and the propriety of the inclusion of the proportion assigned to gas operations, were not disputed by the defendants either before the Special Master or the Court, and the amount ($24,807.38 for 1918) has been included as an operating expense in all computations. This amount is one-third of the total tax and is reported exactly as apportioned by the company on its books of account (Record, pages 3066, 3206).

7. *Interest on Unpaid Taxes.*

This item amounting in 1918 to $88,655.17 was disallowed both by the Master and the Court (Record, page 169a).

The law requires the payment of interest at the rate of seven per cent per annum upon all overdue taxes. The payment of taxes may be temporarily withheld for various reasons, such as the inadequacy of the rate to yield funds with which to meet them or a *bona fide* dispute as to the amount properly payable. Upon taxes so withheld, interest accrues under the law, and is charged upon the books of the company as an operating expense. When these taxes are subsequently paid, interest must be paid with them. Until such taxes are paid or cancelled, the interest accruing thereon remains a liability of the company. The amount computed on the books represents interest accruing during the current year on all unpaid tax liabilities (Record, page 6468).

The withholding of payment of doubtful tax items, pending final determination of their legality

or amount, is, in the case of a corporation called on to pay to the State enormous sums which become chargeable to the cost of serving the consumers, a duty owed by the officers of the company, not only to its stockholders but to its customers as well. The testing of the legality of taxes levied by the public authorities is a duty of the company to its consumers exactly as the exercise of wise judgment in the purchase of materials entering into the manufacture and distribution of gas, and any saving resulting therefrom reverts to the benefit of the consumers. It is proper therefore that any interest accruing on taxes so contested as a result of the legal requirements during the period of withholding payment be included in the expenses of gas operations.

The money withheld pending litigation is available for use in the business, and if it be adjudged that the amount should not have been so withheld and constituted a proper tax, the interest on such money during the contest is a proper charge to operations. On the other side of the account we find interest on bank balances for the year credited in full, regardless of its source (Record, page 15,341, Exhibit 205). Surely if this is a proper credit to gas operations the liability of the company to pay interest upon contested taxes is a proper debit.

We believe the Court went further than it should in excluding this entire amount. In the prior suit of this company, interest on contested taxes was allowed by the Special Master and by Judge Hough, without adverse ruling by this Court.

8. *Federal Income Tax.*

For the reason that during the period of time covered by the proofs in this case, the complainant company derived from its gas business no net in-

come whatever, no charge has been included in operating expenses for that period for Federal Income Tax (Record, page 3,213). In some of the prior years in which that business yielded some net income, a proper proportion of the Federal Income Tax, or corporation excise tax, was included in operating expenses. The defendants claimed, and the Special Master evidently agreed with them, that this is not a proper charge to operating expenses.

The District Judge, however, took the view which we believe sound. After arriving at a conclusion that the operations for 1918 and the portion of 1919 under consideration showed some net income, he made provision for Federal income taxes in the amount which he computed as necessary to produce a fair return (Record, pages 170a, 171a). This we believe was correct. If after paying all operating expenses including all other taxes there is still left some net income from the gas business, the company will be liable to a tax of 10% in accordance with Section 230 of the Revenue Act of 1918. If this tax is charged to operating expenses, as it should be, it is ultimately borne by the consumer of gas. If it is not so charged to operating expenses, it is paid by the stockholders.

It seems to us that there are two considerations which lead to a conclusion that the Federal income tax must be regarded as a proper item of operating expense:

(1) A public utility company's investors are entitled to have their enterprise so treated by the public authorities as not to prevent it from earning a fair return upon the invested capital. Confiscation of the company's property takes place

if acts of the public authorities, in the exercise of the regulatory or taxing power, deprive the company of a fair and adequate return. The constitutional right of the company's investors is a fair return—not a fair return less the amount of the Federal income tax.

The appellants' contention fails to take into account the difference between a public utility corporation and an ordinary industrial concern. The selling-price of the latter's product is not fixed by public authority; it can earn as high a rate of return as market and manufacturing conditions permit; it fixes the selling-price of its product at such a figure as to pass all of its taxes, including the Federal income tax, on to its patrons. A regulated public utility stands in a different position. Because it is restricted in its rate of earnings and the selling-price of its product, it is likewise protected from the confiscation of its property through having its earnings made too meager. It is allowed a fair return over all operating expenses, including taxes. The Government cannot say to a public utility: "You are entitled to earn 7% on your investment, and this rate is fixed to yield, and will yield, you 7%," and then impose a tax which leaves the net earnings but three or four per cent. Such a course would scare away the new capital that is needed and confiscate existing investment. It is obvious that unless the Federal income tax is included in operating expenses, the rate of return would have to be made unduly high so as to cover it and still leave the net earnings adequate. Otherwise the company's earnings are less than its fair right.

(2) From a tax point of view also, it is clear that unless the Federal income tax is included in

operating expenses and so passed on to the company's consumers, a result contrary to the spirit and intent of the Federal income tax law would be accomplished. This may be illustrated by taking the case of a company, such as the Consolidated Gas Company of New York, which has more than nine thousand stockholders. More than eighty per cent. of these hold less than one hundred shares of stock. Assuming dividends at the rate of seven per cent., more than eighty per cent. of the stockholders would receive from the company an annual income of less than seven hundred dollars, an amount of income which is not taxable under the present Federal statute. Many of these stockholders have no other income which would bring their total income to a taxable sum. Therefore, notwithstanding the provision of the Federal law that corporate dividends on which the income tax has been paid at the source may be deducted from personal income returns, a very large percentage of the stockholders of the company would nevertheless be compelled to pay an income tax upon the earnings of the property represented by their stockholding, although such income could not be taxed in their own hands. It would seem that the Federal income tax law was not designed to compel the payment of a tax upon exempted income in such a manner. The tax is a tax upon the corporation and not upon its stockholders and would therefore seem to be a proper charge to operating expenses.

The New York State Court has sustained the foregoing view and has ruled that in the State of this appellee's domicile, the Federal income tax is chargeable to the operating expenses of a gas corporation. *Municipal Gas Co. vs. Public Service Commission*, 113 Misc. 748.

Recapitulation as to Taxes

We believe that we have demonstrated beyond doubt that the Court by its process of ruthlessly resolving all doubts against the company has needlessly and erroneously reduced the actual taxes assessed against the company from at least 10.90 cents to 6.28 cents per thousand cubic feet of gas sold, a reduction of more than four cents. This item alone would reduce the amount which the Court found available for profits in 1919 from 11.69 cents to 7.07 cents.

The District Court, in arriving at the amount to be allowed for taxes, sustained, for purposes of his initial computation, virtually every objection raised by the defendants. He reduced the total taxes for 1918 as claimed by the company from $1,216,828.06 to $831,645.08. He reduced the taxes from the amount actually assessed against the Astoria Company for the same year at $596,084.05, to $276,197.29.

The defendants asked for a reduction of the special franchise tax by taking off $131,041.72, and the Court deducted $115,297, a difference of only a little over $14,000.

The defendants claimed reduction on account of real estate not used in the gas business amounting to $144,477.52; the Court deducted $126,107.71, a difference of a little over $18,000. In other words, counsel for defendants have succeeded in having deducted from complainant's operating expenses a very large proportion of the sums assessed against the complainant's property by the State as taxes, even while the State is seeking to collect these various amounts from the complainant; yet

even with these tremendous deductions, all of which we believe are unwarranted, the Court found that the rate prescribed by the statute remained clearly confiscatory. We strongly urge that in testing the correctness of the Court's conclusion, the items which we have above discussed should be included in the operating expenses; but even if they be not restored, this Court could find no just basis for modifying adversely to the company the action of the District Court, which cut to the very bone this considerable item of the appellee's operating expenses.

POINT VII

THE DISTRICT COURT WAS UNDULY CONSERVATIVE IN REDUCING, BY WAY OF ASSUMPTION FOR THE PURPOSE OF TESTING THE RATE, THE PERCENTAGE FOR SO-CALLED "UNACCOUNTED-FOR" GAS.

Another instance of the extreme and rigorous way in which the District Judge assumed the utmost of decision adverse to the appellee, in his desire to see whether the 80-cent rate still remained clearly confiscatory, is afforded by his treatment of what is generically termed "gas unaccounted for."

The Special Master followed the consensus of expert opinion expressed by the witnesses for all parties and adopted seven per cent. of the gas made and sent out as representing a reasonable "unaccounted for" (Finding No. 47, page 35a).

This conservative figure the District Court further reduced to 4.1 per cent., on the theory that such was the average reported in previous years (page 153a).

But unaccounted-for gas is a fact, not a theory or an average from previous years when different conditions of temperature, coal and oil prevailed. The *actual* figure is just as much a fact entering into the costs of a given year, as are the costs of coal, labor, or gas-oil; yet no one suggests that *average* wages or *average* coal-prices should be used to vary the amounts actually expended by the company.

A gas company knows by its station meters (which are corrected to a constant temperature) how much gas is made and sent out to customers

in a year. It also knows through readings of consumers' meters (which are not corrected for temperature) how much gas is registered and paid for by consumers in the same period. The latter quantity is always less than the former and the difference is colloquially, but not very exactly, called "unaccounted for gas."

This difference is due, as testified by every witness interrogated on the subject, to conditions beyond the company's control; for example, leakage below the surface which does not disclose itself by the presence of any odor of gas in the vicinity; condensation, resulting from low temperature in the mains and services; slow consumers' meters which the tests for a period of years disclose averages, register a small percentage less than the full amount of gas actually consumed; differences in temperature at the consumers' meters; stolen gas, etc. Undoubtedly the quality of the material used in gas manufacture affects to a greater or less degree the gas unaccounted for, as we shall hereinafter show. It is a fact, for example, as the appellants' own witnesses testified, that the quality of anthracite coal mined in recent years is not as good as that formerly obtained by gas companies. Likewise, the gas oil which enters so largely into the manufacture of water gas, while possessing similar chemical properties, may produce a gas of less stability; in other words, one yielding more readily and in greater volume to the effects of temperature than gas oil obtained in prior years.

As to the poorer quality of coal and oil in 1918 and 1919 and its effects, we refer to pages 4870, 4938, 5368, 5528, 5529, 5531, 5684, 5936, 10,269, 10,275, 3515, 3514 and 3602 of the record.

The effect produced by the District Court's rigorous action upon the figure obtained by him for the cost of gas, is obvious: With the "unaccounted-for" gas taken at seven per cent, the cost per thousand cubic feet *made* will represent only 93% of the cost per thousand *sold* and *paid for*. Thus the actual cost in 1918 of 47.09 cents per thousand *made* becomes 50.63 cents per thousand *sold* (Master's Finding 44; page 34a). But through arbitrarily reducing to 4.1 per cent the *actual* loss in volume, the Court reduced the manufacturing cost from the *actual* figure to 49.10 cents per thousand feet of gas sold.

Twenty years ago the unaccounted for was eight per cent. and ten years earlier 12 per cent. At the time of consolidation in 1884, it was as high as 15 per cent. It is no more a question of what the "gas unaccounted for" was several years ago than what the price of coal and oil and labor was several years ago, as bearing upon the question of the present cost of manufacturing and distributing gas. The facts are that during the last three or four years the unaccounted for has averaged approximately seven per cent. This fact cannot be disregarded; its effect is a part of the complainant's present operating costs, just as much as present wages or the present cost of coal and oil. The defendants' witness Little used seven per cent. as his basis and did not criticize it (page 11,264); he had elsewhere used the same figure as reasonable; at the only plant he had ever operated his own unaccounted for was 22 per cent. (Record, page 2168); experts of unquestioned eminence certified to seven per cent. as reasonable in the present case. Of course, if it should transpire in the future that, owing to any modi-

fication in the conditions which now create that percentage of unaccounted for, a different percentage is realized. that fact will promptly be disclosed in the company's report to the Commission, and to the extent that such change affects the cost of gas, will be reflected in the amount chargeable for gas thereafter. It would seem obvious that in determining the present cost of gas, all of the conditions affecting such cost must be given equal weight, always with the reservation that as any conditions change, it may be expected that the price of gas will change for better or for worse in accordance with the instant fact.

The detailed facts as to this matter will be found in the cross-examination of Mr. Woods, the appellee's engineer of manufacture, one of the foremost American experts in this field. We refer to pages 5659 *et seq.* and 4684 *et seq.* of the Record. At page 4699, Mr. Woods expressed the opinion that seven per cent. is a low unaccounted for as to this company. On page 4913 he testified that *from his 35 years of experience he knew that the unaccounted for would average seven per cent.* At page 4699, he testified that seven per cent. unaccounted for would indicate a good maintenance of mains, and that if the mains are not kept in good shape, "I would have 10 or 12 or 15 per cent."

Effect of the So-called "Transfer System"

With the gas made by the various companies of the system intermingled in the mains the unaccounted for gas of the *system* can be ascertained mathematically, but not that of any one company. The amount attributed to a particular company must be computed.

Prior to 1918, this was done by assigning to each subsidiary company the same percentage as it had shown before its mains were interconnected with the system, the amount remaining being then assigned to the Consolidated Company. In 1918 this would have given the appellee a percentage of 6.7% of gas unaccounted for.

But this method was inaccurate to a substantial degree, giving to the Consolidated Company less than its share, as the mains of the other companies have been brought up in recent years to a higher standard of maintenance and their "unaccounted-for" gas has been accordingly reduced.

A more accurate result is obtained, in the opinion of the engineers, by taking three per cent. of all gas made and sent out as representing the quantity lost through condensation, slow meters, differences in temperature at the consumers' meters, other conditions on consumers' premises, and the remainder as lost through leakage in the mains. The first amount is prorated among the companies in the ratio of their gas sales, and the latter amount in the ratio of miles of mains.

The total *unaccounted for* gas being the difference between the total amount of the gas sent out by the companies comprising the Consolidated system and the total amount of gas *accounted for* (that is, sold by these companies and used on their own premises), there may be said to be four methods by which this aggregate quantity of *unaccounted for* might be distributed between the companies.

For the purpose of illustrating these four methods, we will use the figures in evidence cover-

ing the calendar year 1918, and will demonstrate in the first instance the method employed prior to the year 1918, which was to compute the *unaccounted for* of each company except the Consolidated company on the basis of the percentage of the actual *unaccounted for* of each company prior to the interconnecting of the gas main systems. These percentages were as follows:

New Amsterdam Gas Co. (incl. East River Gas Co. of L. I. City)	8%
Central Union Gas Co	7%
Northern Union Gas Co	10%
Standard Gas Light Co	7%
New York Mutual Gas Light Co	6%

The gas *accounted for* (*i. e.*, sold and used) by each company, including the Consolidated Gas Company, and the ratio of each to the total, in 1918, was as follows:

	Cubic Feet	Ratio
Consolidated Gas Co	18,185,952,400	59.4539
New Amsterdam Gas Co.	3,623,082,800	11.8447
Central Union Gas Co.	2,845,970,800	9.3041
Northern Union Gas Co.	1,880,401,300	6.1474
Standard Gas Light Co.	2,258,382,300	7.3831
New York Mutual Gas Lt. Co.	1,794,546,400	5.8668
Total	*30,588,336,000*	*100%*

The total amount of gas sent out by all of the Companies, including the Consolidated Company, was 32,917,980,900 cubic feet.

The total *unaccounted for* was, therefore, 2,329,644,900 "cubic feet, or 7.08" per cent.

Applying the percentages of *unaccounted for* given above for each company except the Consolidated Gas Company, to the sales of that company, the quantity of gas *unaccounted for* can be

computed. In the case of the New Amsterdam Gas Company, for example (whose percentage of *unaccounted for* is eight per cent) the quantity *unaccounted for* is found by dividing the *accounted for* by 92 per cent. and subtracting from the quotient thus obtained the quantity *accounted for* (3,623,082,800 cubic feet ÷ 92 per cent. = 3,938,133,400 cubic feet — 3,623,082,800 cubic feet = 315,050,600 cubic feet). Similarly the quantity *unaccounted for* of each of the other companies whose percentage of *unaccounted* for is given above may be computed, producing, together with the New Amsterdam Gas Company, the following figures:

New Amsterdam Gas Co..	315,050,600	cu. ft.
Central Union Gas Co.....	214,212,800	"
Northern Union Gas Co...	208,933,500	"
Standard Gas Light Co....	169,985,800	"
New York Mutual Gas Light Co.	114,545,400	"
Total	1,022,728,100	"
Which deducted from the total *unaccounted for*, as above	2,329,644,900	"
Gives the *unaccounted for* of the Consolidated Gas Company	1,306,916,800	"
Which added to the sales of the Consolidated Company, as stated.....	18,185,952,400	"
Produces a total of.....	19,492,869,200	"

And establishes as the percentage of *unaccounted for* of the Consolidated Company (1,306,916,800 ÷ 19,492,869,200) as 6.7 per cent.

The method employed in 1918 was based upon the advice of the engineers of the Company as to the probable causes for the *unaccounted for.* A loss of three per cent. of the total quantity of gas sent out by the companies was attributed to condensation, slow consumers meters, variation in temperature, stolen gas, &c., and was divided between the companies on the basis of the ratio of the sales of each company to the aggregate quantity sold by all companies, the balance of the total quantity *unaccounted for* being divided upon the basis of the ratio of the gas main mileage of each company in the system to the total mileage, which is as follows:

	Miles of Gas Mains	Ratio
Consolidated Gas Co.....	821.90	43.9905
New Amsterdam Gas Co..	337.94	18.0875
Central Union Gas Co.....	160.56	8.5936
Northern Union Gas Co...	175.54	9.3954
Standard Gas Light Co....	202.67	10.8475
New York Mutual Gas Lt. Co.	169.75	9.0855
Total	1,868.36	100%

(3% of 32,917,980,900 cu. ft.)—	987,539,400 cu. ft.
Total *unaccounted for*, as above	2,329,644,900 "
Balance to be divided on basis of main mileage.....	1,342,105,500 "

The Consolidated Company's *accounted for,* due to condensation, etc., would be 59.4539 per

cent. of 987,539,400 cubic feet or 587,130,700 cubic feet, and the balance of its unaccounted for would be 43.9905 per cent. of 1,342,105, 500 cubic feet or 590,398,900 cubic feet. The aggregate of these is 1,177,529,600 cubic feet, which, added to the sales as above (18,185,952,400 cubic feet), gives the total gas requirement of the Consolidated Company as 19,363,482,000 cubic feet, of which the *unaccounted for* (1,177,529,600 cubic feet) is equal to 6.08 per cent. With all companies similarly computed, the following percentage of *unaccounted for* is established in respect of each company:

Consolidated Gas Co.	6.08 per cent.
New Amsterdam (Incl. East River Co.)	9.03 " "
Central Union Gas Co.	6.79 " "
Northern Union Gas Co.	9.04 " "
Standard Gas Lt. Co.	8.82 " "
New York Mutual Gas Co.	9.11 " "
Average	7.08 " "

If the entire *unaccounted for* were distributed between the companies on the basis of the main mileage, the result, in respect of the Consolidated Company would be found by applying the ratio (43.9905 per cent.), of this company's main mileage, to the total *unaccounted for* (2,329,644,900 cubic feet) producing an *unaccounted for* for this company of 1,024,822,400 cubic feet which, added to its sales, 18,185,952,400 cubic feet, gives its total requirements on this basis as 19,210,774,800 cubic feet, of which the *unaccounted for* is equal to 5.33 per cent. With all companies similarly

computed the following percentage of *unaccounted for* would be established in respect of each company:

Consolidated Gas Co.....	5.33	per cent.
New Amsterdam Gas Co. (Incl. East River Co.).....	10.42	" "
Central Union Gas Co.....	6.57	" "
Northern Union Gas Co.....	10.43	" "
Standard Gas Light Co.....	10.06	" "
New York Mutual Gas Lt. Co.	10.55	" "
Average	7.08	" "

Such a method would condemn itself the moment its effect upon the percentage of *unaccounted for* of companies other than the Consolidated Company (and incidentally the Central Union Company) is observed. In the actions now pending in this court, brought by all the other companies against the 80 cent rate, it would be impossible to justify such percentages of *unaccounted for* as are here shown for the New Amsterdam, Northern Union, Standard and Mutual Companies. In fact, it is morally certain that the defendants will clamor for a finding based upon the application of the average percentage of *unaccounted* for to all companies. The Master in the present case must have been impressed with the reasonableness of the proposition that the assumption of an average *unaccounted for* as applying to all companies, by eliminating the element of theory as to cause, was fairer to all the companies in the system. Needless to say, if this Court reaches a similar conclusion, this method will be adopted by the companies themselves, as a basis for all future computations.

It is not necessary to make an illustrative computation to demonstrate the effect of the adoption

of a uniform percentage of *unaccounted-for*. The average percentage of *unaccounted-for* would become the basis of the computation of the quantity *unaccounted-for* in respect of each company.

We believe the District Judge ought not, even for the purposes of any assumption or computation, to have undertaken the revision of the appellee's actual operations and costs in 1918 and 1919 by the substitution of an "averaged" unaccounted-for, based on earlier years, different temperatures and conditions, a different method of computation, and different qualities of coal and oil. The District Judge was not justified in reducing the *actual* figure by nearly 50 per cent. His conservatism in this regard decreased the actual cost figure about two cents per thousand cubic feet of gas sold. This, we submit, should be restored. In any event, the action of the District Judge affords no ground for assignment of error by the appellants (defendants below).

POINT VIII

ALTHOUGH THE APPELLEE DID NOT BASE ITS CLAIM TO REDRESS UPON THE PERIOD FROM 1906 TO 1919, THE EVIDENCE BEFORE THE COURT SHOWS THAT THE EIGHTY-CENT RATE HAS BEEN INADEQUATE TO YIELD A FAIR RETURN, IF THE WHOLE PERIOD SINCE ITS ENACTMENT WERE CONSIDERED.

Although the appellee did not select any such period of test, the actual operating results from 1906 to date would confirm the inadequacy of the statutory rate. The appellee did *not*, in its bill of complaint, base its contention that the statute was confiscatory upon the period from 1906 to 1918, as is asserted in the Appellants' Brief (pages 50-72). The excerpt from paragraph XII of the complaint, quoted in the appellants' briefs, that

> "There now exists an aggregate deficiency in your orator's earnings below six per cent, since the date the said eighty cent rate was made effective, in the amount of at least $12,000,000,"

was not alleged in connection with any statement of the revenues and expenses of the complainant from the time that the rate became effective to the time of the filing of the bill of complaint, but, as examination of its context will show, was made with reference to the allegations in that paragraph (Par. XII) of the complaint, as to "the value of your orator's property devoted to its gas business." The bill of complaint alleged the value of the complainant's property as of December 31, 1905, as determined by the Circuit Court and the United States Supreme Court, and the subsequent additions to such property, and that,—

> "*In addition thereto*, your orator is possessed of *going value* and other intangible assets of great value, many of which were omitted from the valuation of your orator's property in said former suit in the United States Circuit Court, which have since been recognized by the courts and state commissions as reasonable and proper; and there now exists an aggregate deficiency in your orator's earnings below six per cent., since the date the said eighty-cent rate was made effective, in the amount of at least $12,000,000, which said sum should be added to the value of your orator's tangible property, as above stated, as going value, upon which your orator is entitled to a return."

This allegation of the accumulated deficits during the effective period of the rate was made, not because the complainant was not entitled to relief from the operation of the rate without proving such an allegation, but because the accumulated deficits under a decision of the New York Court of Appeals in *People ex rel. Kings County Lighting Co. vs. Public Service Commission*, 210 N. Y. 479, gave rise to a claim of additional property value. In view of the fact that, at the time of trial, bare operating expenses had begun to run ahead of revenues, and were little less than the revenues in 1918, apart from any element of return, the appellee did not feel it necessary, upon the trial, to take the further time to prove the amount of this going value as an element of property, under the New York theory exemplified by Judge Miller's opinion in the *Kings County Lighting* case.

Far from having, as the appellants contend (Point XI, page 138 of Appellant Swann's Brief),

"selected" by its bill of complaint the period from 1906 to 1919 for the trial of the issues in this case, the revenues and expenses specifically set out in the bill of complaint, cover the year ending October 31, 1918 (par. XIII) and the prospective results subsequent to that date (par. XIV). The matter of the proper test period is discussed in detail under Point VII of the General Brief for the appellee.

The disjointed fragments quoted in the appellants' briefs, from discussions between counsel and the Master concerning the valuation of the property of the complainant at different times between 1906 and 1919, do not bear out the claim in the defendants' brief "that the Master repeatedly found fault with the issue as raised by the complainant."

That is shown, for example, by an extension of the fragmentary quotation (Defendants' Brief, page) of the Master's remarks which are set forth at Record, pages 11,114-11,117, folios 33,340-33,351.

A further illustration of the complete disregard of indisputable facts and principles by counsel for the appellant Attorney-General is found in his statement (Brief, page 17) that the appellee enjoyed "enormous profits" from the inception of the statute (in 1906) to the end of 1917, and that the excess in earnings over an average return of six per cent amounts to more than $24,000,000 for the period.

This preposterous statement is based on theories and assumptions of value which were disregarded by this Court in the previous litigation and rejected by the Master and by Judge Hand in the Court below, in the case at bar. Judge

Hand reduced everything, including property values, earnings and expenses, to less than "bare bones," in order to satisfy his mind completely that on no conceivable theory could the statute be sustained. The Attorney-General takes these extreme tests, together with his preposterous assumptions, and attempts to make them the basis of an actual finding of facts for the entire period between May, 1906, and January, 1918; then, not satisfied with this, he makes on his own account further deductions and allowances in respect of earnings, in order to reach his extravagant results. The appellant's statement is so exaggerated and absurd and so much at variance with the facts accepted by this Court in the previous litigation that it is sufficient to discredit any statement of facts contained in the brief.

In order that the Court might have before it in perspective the experience of the appellee since the eighty-cent gas rate went into effect, the appellee did present evidence on the trial, to show its actual gas revenues and expenses from 1906 to 1919 (Witness Teele's Exhibit 366, reprinted at page 276a *post;* Witness Carter's Exhibit 498, Record, page 14,536). The deficiency of earnings during the period from January 1, 1907, to August 31, 1919, below a return upon the actual cost of property, at six per cent. for the years from 1907 to 1916 and at eight per cent. from January 1, 1917, to August 31, 1919, amounted to $13,907,878.35. Based upon the appraisals of 1905 in the prior suit and the cost of additions and withdrawals and working capital since then, such deficiency aggregated on August 31, 1919, the sum of $22,153,681.07. The computation is set forth in Complainant's Exhibit 498, which is here reprinted for convenience:

E:

CONSOLIDATED GA:

Statement showing comparison between the actual earnings and earnings
31, 1919, on the Company's property claimed to be used in the
and the Schedules of additions and Retirements and Wo
the cost to the C

Based upon appraisals of Mayer, Simpson and Preiss and
additions and withdrawals and Working Capital in

	Average Investment as of June 30th 1	Actual Income 2	6 Per Cent of Column No. 1 3
1907	58,369,481.17	2,855,610.10	3,502,168.87
1908	58,564,820.29	2,363,803.13	3,513,889.22
1909	58,957,188.91	3,331,758.07	3,537,431.33
1910	60,076,317.98	3,449,513.52	3,604,579.08
1911	61,746,076.07	3,559,017.88	3,704,764.56
1912	63,020,273.63	2,925,457.17	3,781,316.42
1913	63,406,148.95	2,410,154.40	3,804,368.94
1914	61,929,964.66	1,323,609.17	3,715,797.88
1915	60,643,206.65	2,501,165.49	3,638,592.40
1916	60,674,156.88	2,552,947.00	3,640,449.41
1907–1916	607,387,635.19	27,273,035.93	36,443,258.11
1917	60,895,619.89	1,359,027.18	4,871,649.59*
1918	60,883,882.18	**198,633.13**	4,870,710.57*
8 mos. 1919	60,554,333.44**	**1,171,928.33**	3,229,564.45***
1917–1919	182,333,835.51	**11,534.28**	12,971,924.61
Total 1907-1919	789,721,470.70	27,261,501.65	49,415,182.72

* The figure given for 1917, 1918 & 1919 is on an 8 per cent basi
** In the years 1918 and 1919 the assessed valuations of land have be
balance of December 31, 1918.
*** 8 months at the rate of 8 per cent per annum.
Heavy faced figures denote deficit.

ANY OF NEW YORK

d at 6 per cent for 1907-1916 and at 8 per cent January 1, 1917, to August
ess (1) based upon the appraisals of Mayer, Simpson and Preiss
pital in evidence and Franchise Value, and (2) based upon
of such property.

s of

ncy	Average Investment as of June 30th 5	Based upon Original Cost: Actual Income 6	6 Per Cent of Column No. 5 7	Deficiency 8
	48,571,826.67	2,855,610.10	2,914,209.60	
	48,543,425.90	2,363,803.13	2,912,605.55	
	48,795,085.57	3,331,758.07	2,927,705.13	
	49,782,613.02	3,449,513.52	2,986,956.78	
	51,360,375.82	3,559,017.88	3,081,622.55	
	52,748,635.60	2,925,457.17	3,164,918.14	
	53,219,931.69	2,410,154.40	3,193,195.90	
	51,624,185.14	1,323,609.17	3,097,451.11	
	50,264,049.90	2,501,165.49	3,015,842.99	
	50,355,352.52	2,552,947.80	3,021,321.15	
22.18	505,265,481.83	27,273,035.93	30,315,928.90	3,042,892.97
	50,605,682.81	1,359,027.18	4,048,454.63*	
	51,008,193.24	198,633.13	4,080,655.46*	
	51,081,393.99	1,171,928.33	2,724,341.01***	
8.89	152,695,270.04	11,534.28	10,853,451.10	10,864,985.38
1.07	657,960,751.87	27,261,501.65	41,169,380.00	13,907,878.35

han 6 per cent.
ated for Preiss' Values. The figures shown for 8 months 1919 is the

The statement of actual income as computed by Mr. Teele in his Exhibit No. 366 and as restated by Mr. Carter in his Exhibit No. 498 did not include in the operating expenses which were set off against the revenues any amount, in any year from 1907 to 1919, for contingency reserve, amortization reserve, or depreciation reserve. Mr. A. F. Weber, the chief statistician of the Commission, who attempted to make certain calculations of the amounts which had been, or which he claims should have been, reserved by the complainant, acknowledged the fact that Mr. Teele's statement of revenues and expenses as set forth in complainant's Exhibit 366 (showing the actual income for each year from 1907 to 1919, which is restated in complainant's Exhibit 498), did not include, as an item of expense in operation, any amount whatever reserved by the complainant for contingencies (See the testimony of Dr. Weber; Record, pages 11,539, 11,542, 11,557, and see also Point XVI; page 461 *et seq., post*).

In other words, what the appellants now claim to be amounts of reserve earned under the eighty-cent rate are not amounts which are included in the operating expenses, but are a part of the distributable income above operating expenses. If from the sum stated as the income from 1907 to 1919 (that is, $27,261,501.65, or three and one-half per cent.), there should be deducted for reserves the amount of approximately $12,000,000 claimed by the appellants to have been earned and reserved out of the eighty-cent rate, the net income of the appellee during this period would be reduced to about $15,000,000, or about two per cent., and the deficiency in earnings below operating expenses and a fair rate of return, as stated in Exhibit 498 (amounting to $22,153,681.07) would be increased by approximately $12,000,000, and would result in a deficiency of about $34,000,000.

POINT IX

THE CORRECTNESS AND CONSERVATISM OF THE FINDINGS OF THE SPECIAL MASTER AND THE DISTRICT COURT IN THE PRESENT SUIT ARE CONFIRMED, IF CONSIDERED IN THE LIGHT OF THE FACTS FOUND BY JUDGE HOUGH (157 FED. 849) AND ADOPTED, WITH A MODIFICATION IN RESPECT OF ONLY A SINGLE ITEM, BY THIS COURT IN THE PRIOR SUIT (212 U. S. 19).

The defendants insisted below that this suit was only a continuation of that decided by this Court in 1909. This contention was made to furnish a pretense of relevancy for the assertion that a rate which barely yielded operating expenses in 1918 and no return at all on investment in any ensuing year, must nevertheless be deemed non-confiscatory because the appellee had earned twenty-five million dollars more than a six per cent. return on its investment in gas property, in the years since 1906.

This monumental mis-statement of fact is supposed to be supported by tables placed in evidence by the defendants on the trial. The Special Master ruled that he would not make any finding as to the adequacy of the rate prior to 1918, and therefore would not permit these tables to be analyzed at length by way of testimony spread upon the record, nor would he receive in evidence the findings passed on by this Court in the prior suit. Elsewhere we shall undertake suitable comment upon various of the items set forth in these tables. First, it may be helpful to correllate the facts found in the present case with the findings in the prior suit (212 U. S. 19).

In the first place, it will be observed that the Master in this case made no finding and expressed no opinion as to the amount the appellee earned in any one year or any period of years. His findings were (1) as to the *quantum* of property *required* for the production, transmission and distribution of the gas sold by the appellee to its customers; (2) as to the cost per thousand cubic feet of gas sold of manufacturing and distributing such gas, including maintenance and taxes, after giving effect to appellee's miscellaneous operating revenue; (3) as to the average selling price per thousand; and (4) as to the profit, if any, per thousand cubic feet of gas sold. He found the last named to be no more than 4.73 cents per thousand, equal to $898,700, which he stated amounted "to a fair and reasonable return on no more than $11,233,750, of the fair value of the property used and needed as hereinbefore found." (Finding No. 72). The value of property, on an investment basis, amounted to $74,854,351.14. (Finding No. 70).

Comparison of Findings by Judge Hough As Modified, in Respect of the Value of the Company's Franchises and Rights, by this Court, in the Prior Suit, and the Findings of the Master in the Present Suit, in Respect to Property Used

In the prior case Judge Hough, sitting in the District Court, heard the motion for a final decree and rendered his decision in which he found the value of complainant's property used in its gas business, exclusive of the "ascertained cost of the Astoria Plant" $12,000,000 (157 Fed. 868; Record on Appeal in that suit, page 407) to be $59,831,435 (Supplemental Opinion, Record on Appeal, page 430). He found complainant's earnings, after deducting six per cent. interest ($720,000), on the value of the Astoria Plant ($12,000,000), to be $3,024,592.45 (Supplemental Opinion; Record on Appeal in prior suit, page 430). Regarding a six per cent. rate of return, he said: "It has not been asserted and is not believed, that six per cent. is a profitable, satisfactory or attractive rate for the investment of capital in a gas business. In my opinion it is none of these things, but it is the lowest rate which in the City of New York can be considered legislatively fair to those who are already engaged therein and cannot readily escape." (Supplemental Opinion; Record on Appeal, page 428). This was in 1907, when the purchasing power of a dollar was from 66-2/3 to 100 per cent. greater than it is today.

Included in the amount found by Judge Hough to be the value of complainant's own property ($59,831,435), (Record on Appeal, page 430) was $12,000,000 for "Franchises and Rights," which

this Court subsequently reduced to $7,781,000, that being the amount at which the Franchises and Rights were capitalized in 1884 under the authority of Chapter 367 of the Laws of 1884, thus reducing the valuation found by Judge Hough by $4,219,000 to the net amount of $55,-612,435 (212 U. S. 48). This Court confirmed Judge Hough's finding as to the Company's right to earn at least six per cent. on the value of its property, but found the earnings at that time ($3,024,592.45) to be equal to at least 5½ per cent. on the reduced value of the appellee's property (page 48), and thereupon, for reasons stated in the opinion, dismissed the complaint without prejudice. Judge Hough's findings as to revenues, expenses and income were not modified by this Court, although it was then, and still is, the contention of the Appellee that Judge Hough's allowances resulted in an *understatement* of the operating costs and an *overstatement* of the net income.

The Master in the present case found that the appellee is entitled to earn a fair return upon its *investment* in its gas property and upon the investment in the Astoria plant and tunnel, which are also used and required in its gas business. Of course, if the Astoria investment were not included in the amount of investment required to serve the complainant's consumers upon which the complainant is entitled to earn a return through the rates charged, the amount paid by the complainant for the use of the Astoria property would have had to be included in the complainant's operating expenses as found by the Master; but, in this case, the Master excluded the payment for the use of the Astoria property from complainant's operating expenses and put the

property itself directly into the so-called "rate base." To bring the proofs within the Master's view that the "present value" of the property of a utility finds its fairest index in the amount of the investment therein, complainant prepared and filed as an exhibit a statement of its investment in land, plant and equipment and other property *owned by it* and used in its gas business as of each year from 1906 to 1919, as shown by its books (Complainant's Exhibit No. 497, reprinted on page 276b, *post*. It also filed a statement (Complainant's Exhibit No. 356, reprinted on the next page), showing the actual revenues and expenses of its gas business for each year from 1906 to 1918, as certified to by Mr. Arthur W. Teele, one of the country's foremost accountants, now serving by President Harding's appointment as a member of the new Federal tribunal for adjustment of claims against the Shipping Board.

These exhibits correctly set forth the facts respecting the appellee's investment and earnings during the period covered. They conform absolutely to the sworn reports made annually to the defendant Public Service Commission on forms prescribed by that body and are compiled from the appellee's books of account which have been subject to the examination, check and scrutiny of the Commission and of the State and Federal taxing authorities during the entire period. They follow:

Revenues	
Sales of gas	*
Rents from Gas Appliances	
Gas Residuals produced less expense	
Gross profit from sales of Gas Appliances	
Interest on bank balance, etc	
Rental of Jointly Used Facilities**	
Miscellaneous Rent Revenue (Gross)	
Revenue from Street Lamp Maintenance	
Total Revenues	
Expenses	
Cost of Production	
Cost to Distribute	
Uncollectible Gas Bills	
Renewals and Replacements	
Interest on Consumers' Deposits	
Taxes and Interest thereon	
Total Expenses	
Net Profit or Loss from Gas Business	

* Includes sales for four months (to May, 19
** After deducting percentage (representing

Complainant's Exhibit No. 366

REVENUES AND EXPENSES OF THE GAS BUSINESS OF THE CONSOLIDATED GAS COMPANY FOR THE YEARS 1906 TO 1918, INCLUSIVE

	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916
..	*12,225,868.16	11,764,606.63	11,473,705.00	12,207,846.18	12,812,585.72	12,917,247.98	13,291,616.51	13,221,853.20	13,183,111.94	12,522,877.13	13,022,72
..	154,529.50	183,063.33	228,907.64	268,293.07	324,468.53	387,926.20	425,082.05	477,030.10	521,806.64	579,461.41	617,30
..	437,561.86	229,702.04	187,717.68	219,143.26	246,632.89	239,128.15	232,093.47	215,807.45	262,084.55	211,338.02	134,07
..	11,786.48	11,774.20	8,756.03	5,132.56	11,378.00	13,475.88	12,700.84	23,008.14	20,114.81	30,769.80	61,37
..	41,499.86	27,375.91	54,177.33	16,276.93	15,075.02	46,417.26	25,942.56	15,949.87	15,030.93	5,126.31	9,63
..	2,069.51	11,391.12	12,684.06	12,375.95	12,376.00	14,623.22	57,287.85	91,456.58	91,456.59	93,496.58	99,61
..	7,078.73	8,262.21	9,798.32	7,617.45	11,595.29	16,112.62	16,418.98	17,460.66	56,872.22	146,860.85	166,53
..	247,381.14	262,162.76									
.	13,127,775.24	12,498,338.20	11,975,746.06	12,736,685.40	13,434,111.45	13,634,931.31	14,061,142.26	14,062,566.00	14,150,477.68	13,589,930.10	14,111,26
..	5,112,291.86	6,058,840.90	5,953,121.25	5,673,368.28	5,842,191.62	5,882,610.83	6,265,758.53	6,637,193.66	7,021,977.36	5,920,040.17	6,496,80
..	2,359,213.05	2,484,769.19	2,438,524.76	2,516,018.99	2,789,032.84	2,917,514.01	3,387,790.12	3,106,033.66	3,339,216.62	3,285,728.42	3,377,61
..	70,506.01	86,531.92	63,454.10	103,229.79	71,754.53	54,599.55	50,091.01	42,160.90	57,979.51	53,436.48	41,69
..	200,517.06	395,869.56	455,246.77	364,028.05	556,525.35	489,437.81	646,528.82	776,138.48	1,338,582.14	881,840.36	554,58
..	41,628.37	48,033.04	49,943.18	49,145.22	70,205.01	53,135.32	51,858.47	48,994.04	45,941.44	45,498.77	44,36
..	604,247.63	568,683.49	651,652.87	699,137.00	654,888.58	678,585.88	733,658.14	1,041,890.86	1,023,171.44	902,220.41	1,043,24
.	8,388,403.98	9,642,728.10	9,611,942.93	9,404,927.33	9,984,597.93	10,075,913.43	11,135,685.09	11,652,411.60	12,826,868.51	11,088,764.61	11,558,31
.	*4,739,371.26	2,855,610.10	2,363,803.13	3,331,758.07	3,449,513.52	3,559,017.88	2,925,457.17	2,410,154.40	1,323,609.17	2,501,165.49	2,552,94

y, 1906) at old rate of $1.00 per M cubic feet of gas.
ing excess or revenue over expenses) upon prorated value of Jointly Used Facilities.

*** After deducting $905.68, "Commissions on Others

BLURRED COPY

Complainant's Exhibit No. 366

OF THE CONSOLIDATED GAS COMPANY FOR THE YEARS 1906 TO 1918, INCLUSIVE

	1910	1911	1912	1913	1914	1915	1916	1917	1918
18	12,812,585.72	12,917,247.98	13,291,616.51	13,221,853.20	13,183,111.94	12,522,877.13	13,022,722.32	13,499,382.66	14,406,222.47
07	324,468.53	387,926.20	425,082.05	477,030.10	521,806.64	579,461.41	617,303.67	687,903.05	963,511.21
26	246,632.89	239,128.15	232,093.47	215,807.45	262,084.55	211,338.02	134,070.61	192,887.83	428,126.48
56	11,378.00	13,475.88	12,700.84	23,008.14	20,114.81	30,769.80	61,375.93	143,031.56	214,517.38
93	15,075.02	46,417.26	25,942.56	15,949.87	15,030.93	5,126.31	9,637.73	35,744.38	19,765.20
95	12,376.00	14,623.22	57,287.85	91,456.58	91,456.59	93,496.58	99,616.66	99,616.66	99,616.65
45	11,595.29	16,112.62	16,418.98	17,460.66	56,872.22	146,860.85	166,536.03	182,276.12	192,322.85
40	13,434,111.45	13,634,931.31	14,061,142.26	14,062,566.00	14,150,477.68	13,589,930.10	14,111,262.95	14,840,842.26	16,324,082.24
28	5,842,191.62	5,882,610.83	6,265,758.53	6,637,193.66	7,021,977.36	5,920,040.17	6,496,804.33	8,328,110.89	***10,959,144.67
99	2,789,032.84	2,917,514.04	3,387,790.12	3,106,033.66	3,339,216.62	3,285,728.42	3,377,613.00	3,534,145.03	3,561,568.95
79	71,754.53	54,599.55	50,091.01	42,160.90	57,979.51	53,436.48	41,699.82	42,013.36	95,330.22
35	556,525.35	489,437.81	646,528.82	776,138.48	1,338,582.14	881,840.36	554,585.03	358,679.29	601,450.69
22	70,205.01	53,135.32	51,858.47	48,994.04	45,941.44	45,498.77	44,368.48	41,301.46	40,905.00
10	654,888.58	678,585.88	733,658.14	1,041,890.86	1,023,171.44	902,220.41	1,043,245.29	1,177,565.05	1,264,315.84
33	9,984,597.93	10,075,913.43	11,135,685.09	11,652,411.60	12,826,868.51	11,088,764.61	11,558,315.95	13,481,815.08	16,522,715.37
07	3,449,513.52	3,559,017.88	2,925,457.17	2,410,154.40	1,323,609.17	2,501,165.49	2,552,947.00	1,359,027.18	*****198,633.13

of Jointly Used Facilities.

*** After deducting $905.68, "Commissions on Others Gas."

*****Loss

CONSOLIDATED

Jan. 1, 1907,

Summary of the cost of the property claimed to be used in the gas business together with Working Capital and the Value of Fra
neering & Superintendence, and other "Overheads", and of "Going Value"; also showing a con
for 1907-1916, and 8 per ce

	Real Estate and Improvements other than Plant 1	Mfg. Plant and Equipment 2	Street Mains 3	Services 4	Meters & Miscellaneous property 5	Working Capital 6	Franchises and Rights 7
1906	9,041,237.73	15,419,277.53	7,494,716.19	1,237,339.54	3,967,023.72	3,693,620.00	7,781,000.00
1907	8,702,879.52	15,199,103.05	7,782,339.35	1,291,160.26	4,190,920.39	3,771,235.00	7,781,000.00
1908	8,723,610.67	15,044,332.84	7,793,637.16	1,275,733.41	4,262,842.80	3,848,850.00	7,781,000.00
1909	8,811,249.26	15,039,507.72	8,019,445.98	1,271,325.83	4,509,381.83	3,926,465.00	7,781,000.00
1910	8,607,334.29	15,237,684.47	9,119,442.40	1,267,314.48	4,793,776.18	4,004,080.00	7,781,000.00
1911	8,980,817.52	15,725,870.56	9,665,668.98	1,259,192.84	5,057,109.42	4,081,695.00	7,781,000.00
1912	9,318,196.48	16,091,776.33	10,625,600.06	1,258,917.63	5,203,728.59	4,159,310.00	7,781,000.00
1913	11,393,128.58	16,204,496.69	10,814,345.70	1,250,758.76	5,301,680.90	4,236,925.00	7,781,000.00
1914	10,965,791.92	14,161,446.55	10,842,117.34	1,218,972.89	5,344,272.63	4,314,540.00	7,781,000.00
1915	10,307,239.90	14,000,103.55	10,917,682.69	1,219,545.24	5,666,698.87	4,392,155.00	7,781,000.00
1916	10,402,265.79	13,473,174.01	10,960,813.21	1,221,240.73	5,981,541.98	4,469,770.00	7,781,000.00
1917	10,602,786.93	13,456,061.33	10,986,091.88	1,234,731.83	6,342,347.63	4,547,385.00	7,781,000.00
1918	10,647,062.94	13,119,754.76	11,027,265.24	1,272,241.74	6,631,454.32	4,625,000.00	7,781,000.00
Aug. 31, 1919							

*The figure given for 1917, 1918 &
**Balance of December 31, 1918.
***8 months at the rate of 8 per cent

ainant's Exhibit No. 497

D GAS COMPANY OF NEW YORK

07, to Aug. 31, 1919, inclusive

Franchises & rights (212 U. S. 19) but exclusive of expenditures made b
comparison between the actual earnings upon such cost, and earnings thereo
cent for January 1st, 1917, to August 31st, 1919.

		Deduct portion used by others		
	Total	Jointly used facilities	G. O. Bldg. cost in excess of $1,100,000.	Net
	8	9	10	11
00	48,634,254.71	43,766.95		48,590,487.76
00	48,718,637.57	165,472.00		48,553,165.57
00	48,730,006.88	196,320.66		48,533,686.22
00	49,358,375.62	301,890.70		49,056,484.92
00	50,810,631.82	301,890.70		50,508,741.12
00	52,551,354.32	339,343.70		52,212,010.62
00	54,438,529.09	1,153,268.51		53,285,260.58
00	56,982,335.63	1,866,733.85	1,960,998.99	53,154,602.79
00	54,628,141.33	1,866,733.85	2,667,640.00	50,093,767.48
00	54,289,805.72	1,906,734.05	1,949,358.89	50,434,332.31
00	54,289,805.72	2,002,734.79	2,010,698.21	50,276,372.72
00	54,950,404.60	2,002,734.79	2,012,677.32	50,934,992.49
00	55,103,780.00	2,002,734.79	2,019,651.22	51,081,393.99

1919 is on an 8 per cent basis rather than 6 per cent

t per annum

charged to Fixed Capital for Interest during Construction, Engi-
e rate of 6 per cent per annum,

as of 30th	Actual Income 13	6 Per Cent of Column 12 14	Deficiency 15		
					1906
26.67	2,855,610.10	2,914,309.60			1907
25.90	2,363,803.13	2,912,605.55			1908
85.57	3,331,758.07	2,927,705.13			1909
13.02	3,449,513.52	2,986,956.78			1910
75.82	3,559,017.88	3,081,622.55			1911
35.60	2,925,457.17	3,164,918.14			1912
31.69	2,410,154.40	3,193,195.90			1913
85.14	1,323,609.17	3,097,451.11			1914
49.90	2,501,165.49	3,015,842.99			1915
52.52	2,552,947.00	3,021,321.15			1916
31.83	27,273,035.93	30,315,928.90	3,042,892.97		
92.81	1,359,027.18	4,048,454.63*			1917
33.24	(198,633.13)	4,080,655.46*			1918
93.99	(1,171,928.33)	2,724,341.01***		8 mos	1919
70.04	(11,534.28)	10,853,451.10	10,864,985.38		
31.87	27,261,501.65	41,169,380.00	13,907,878.35		

For the possible convenience of the Court, we have abstracted from the Schedules constituting Complainant's Exhibits 497 and 366, (*a*) the investment for each year and (*b*) the earnings for each year, and have computed the rate earned each year, beginning with 1907, the first full year in which the eighty-cent rate was in effect (1906 being shown, but excluded because the price was $1.00 per thousand during a portion of the year) and including 1918 and eight months of 1919, omitted by defendants from their *misstatement* of the facts. This presentation follows Judge Hough's method of showing complainant's *own* investment in property actually used in its gas business, and complainant's actual earnings, after deducting therefrom interest on the Astoria property, as said earnings appear in the books:

	Investment	Earnings	Rate Earned, Per Cent
1906	$48,590,487.76	$4,739,371.26	
1907	48,571,826.67	2,855,610.10	5.88
1908	48,543,425.90	2,363,803.13	4.87
1909	48,795,085.57	3,331,758.07	6.83
1910	49,782,613.02	3,449,513.52	6.93
1911	51,360,375.82	3,559,017.88	6.93
1912	52,748,635.60	2,925,457.17	5.55
1913	53,219,931.69	2,410,154.40	4.53
1914	51,624,185.14	1,323,609.17	2.56
1915	50,264,049.90	2,501,165.49	4.98
1916	50,355,352.52	2,552,947.00	5.07
1917	50,605,682.81	1,359,027.18	2.69
Total 1907-1917	$555,871,164.64	$28,632,063.11	5.15
1918	51,008,193.24	198.633.13	Deficit
8 Mos. 1919	51,081,393.99	1,171,928.33	"
Total 1907-Aug. 31, 1919	$657,960,751.87	$27,261,501.65	4.14

It may be noted that the appellee's *investment* as of 1906 ($48,590,487.76), was substantially less than the *value* of the appellee's property found by Judge Hough as of December 31, 1905 ($55,612,435). The explanation is that the *value* of

appellee's property found by Judge Hough was based upon an inventory and an appraisal, at reproduction cost, of the property as of that year (1906), which included the cost (about $5,110,386) of replacing the street pavement over the gas-mains and services. As this item of reproduction cost did not represent an actual expenditure by the complainant, it would not appear in a statement of its investment as shown by its books (212 U. S., 19).

Likewise the actual earnings for 1907 ($2,855,610.10) were $168,982.35 less than it was estimated by Judge Hough that they would amount to under the 80-cent rate ($3,024,592.45). Assumptions of increased sales from lowered rates are usually unfounded. This may be attributable to the fact that Judge Hough added over a billion cubic feet to the complainant's sales, viz., the difference between the quantity of gas purchased (2,863,702,341 cubic feet, Record in prior suit, page 405), and the annual capacity of the Astoria plant (4,000,000,000 cubic feet; page 407), without adding any sum for increased distributing expenses in connection with such assumed increase in sales (pages 425-426). In this connection Judge Hough stated (Record, page 432) that his computation of profits from purchased gas represented "more than a normal profit" and stated his reasons for this conclusion.

It will be observed that thereafter the rate earned fluctuated, prior to 1917, between 2.56 per cent. and 6.93 per cent. on the investment. The rate of return on the Astoria Plant charged by the Astoria Company and included in the appellee's expenses was computed at 7 per cent., which, it is contended, was justified by Judge Hough's observations regarding a 6 per cent. return. The

rate of return on the tunnel and other facilities not owned by complainant, but jointly used by it, charged to complainant and included in the appellee's expenses, was computed at 6 per cent.

Instead of appellee realizing *a profit* of $25,845,513 in excess of six per cent. on its investment, as the defendants wildly declare, the appellee actually earned during the period 1907 to 1917, both inclusive, $4,720,206 *less than six per cent. on its investment*, defendants' mis-statement respecting complainant's earnings amounting therefore to over thirty million dollars.

Because of the imperative need that the case be expedited and because of the determined and persistent efforts of the defendants to delay and prolong the proceedings, the complainant accepted the Master's ruling that he would not make a finding as to the adequacy or inadequacy of the earnings for the years prior to 1918 because he did not consider the results in those years pertinent to the adequacy of the 80-cent rate in the new price level of 1918, 1919 and thereafter.

Under other conditions, it might have been quite fair to assume, as defendants state the Master did, that there would not be and could not be "evidence which would justify a finding that they did not get a fair return down to December, 1917," for no other reason than that the appellee did not contest the rate during that period. Under the conditions here existing, however, it is obvious that the rate would not be contested as long as the company was earning on the average within one-half per cent. of six per cent. on its investment. As a matter of fact, complainant's earnings from 1907 to 1916 inclusive *averaged* about 5.4 per cent. on its investment.

This Court will doubtless take notice of the fact that the complainant felt obliged and constrained to endure for the nonce the increased losses it found itself sustaining in 1918, in order that it might have the evidence of that year's experience with higher prices for labor and materials to present to the Court in the event the developments of the year showed no abatement from these higher unit costs. More than a year and a half elapsed, after it filed its complaint and began urging upon the Court the expediting of its case to the end that the losses it was daily sustaining might be terminated, before the trial could be brought to completion and a decree obtained. In other words, for more than two and a half years the company has had to sustain losses aggregating $13,578,000 which it may never recover except by capitalizing them and earning a return thereon. Certainly in any future rate case the company would be justified in claiming the right to earn a return upon this amount in addition to its investment.

In order to compare the investment in property employed in the appellee's gas business as found by the Master in the present case ($74,854,351.14, Report, Finding No. 70), with the value found by Judge Hough in the prior case, there must be deducted from the value of the appellee's property as found by Judge Hough ($55,612,435), the reproduction cost of paving not laid by the appellee ($5,110,386), leaving as the *value* of complainant's property minus the cost of repaving the sum of $50,502,049, which exceeded the appellee's actual *investment* as of that period as stated above ($48,590,487.76), by about $1,911,561.24, to which must be added the value found by Judge Hough for the Astoria plant ($12,000,000), mak-

ing a total of $62,502,049. The increase in the Master's valuation of 1919 over Judge Hough's valuation in 1906 is $12,352,302.14 or *19.8 per cent.*, as compared with an increase of 23.5 per cent. in the investment ($48,590,487 plus $12,000,000 deducted from $74,854,351 equals $14,263,864). During this period the complainant's sales have increased *37.9 per cent.* The sales in 1905, though not in the present record, may be deduced from Judge Hough's decision (Record in prior suit, pages 401, 402) by converting the so-called "ten cent charge" ($1,328,316.38) into cubic feet, which produces 13,283,163,800 cubic feet which were the sales for that year. The sales for the nominal year ended October 31, 1919, were 18,321,589,800 cubic feet (Exhibit 382), an increase of 5,038,426,000 cubic feet or 37.9 per cent. The combined manufacturing plant capacity of the appellee and the Astoria Company amounted in 1906 to 71,000,000 cubic feet (Ex. AA132). The combined capacity found by the Master and included in the investment ($74,854,351.14; Report, page 41a), found by him, included the capacity of the plants then operated, which are owned by complainant and the Astoria Company (93,500,000 cubic feet; Finding No. 50; page 35a) and one-half of the new Astoria unit then under construction (15,000,000 cubic feet; Finding No. 53; page 35a) and aggregated 108,500,000 cubic feet, an increase over 1906 of 37,500,000 cubic feet or *52.8 per cent.* It will be noted that the capacity allowed by the Master exceeded the maximum day's output in the winter of 1919-1920 (99,243,000 cubic feet; see Record, pages 14,881-2) by a quantity which provided a reserve of *only 9.3* per cent. The maximum day's output referred to (99,243,000 cubic feet) exceeded the maximum day's out-

put in 1906 (57,396,000 cubic feet; Record, pages 14881-2) by 41,847,000 cubic feet or *72.9 per cent.* We have then:

An increase in property value of.. 19.8 per cent.
An increase in actual investment of 23.5 per cent.
An increase in sales of ..... 37.9 per cent.
An increase in plant capacity of... 52.8 per cent.
An increase in the maximum day's requirements of ..... 72.7 per cent.

It is obvious that the increase in the property value, as well as in the actual investment, is well within an amount which might be sustained in view of the increase in sales, in plant capacity and in the maximum day's output. It might be assumed that the increase in sales would correspond with the increase in plant capacity; but, with the great increase in the demand for gas for heating purposes in winter and especially in recent years when the normal supply of coal has been greatly impaired by transportation and labor difficulties, gas at 80 cents per thousand cubic feet has been found to be not only a convenient but an economical substitute for coal, with the result that the relationship between the maximum winter demand and the annual sales has become entirely disarranged.

The plant capacity must, of course, equal, and should exceed by a substantial percentage, the maximum day's demand. The sales in 1905 (13,283,163,800 cubic feet) were equal to 231 times the maximum day's demand (57,396,000 cubic feet), while in 1919 the sales (18,321,589,800 cubic feet) were equal to only 185 times the maximum day's demand (99,243,000 cubic feet). This means that, assuming a uniform reserve, the increase in plant capacity would cor-

respond with the increase in the maximum day's output, and that the increase in plant capacity would be, relatively, substantially greater than the increase in annual sales. This explains the greater increase in plant capacity (52.8 per cent.) than in annual sales (37.9 per cent.). The fact that the increase in the maximum day is greater than the increase in plant capacity is due to the fact that uniformity in the reserve has not been maintained. In 1906, as we have seen, the plant capacity was 71,000,000 cubic feet; and the maximum day's output 57,396,000 cubic feet. The reserve capacity was 13,604,000 cubic feet or 23.7 per cent. of the maximum day, which is not considered by engineers to be an excessive reserve. The Master stated (Opinion; Record, page 50a), that "the witnesses all agree that in extending a gas plant the reserve capacity must be somewhere between 20 per cent. and 25 per cent." The reserve capacity provided by the Master's findings is, as a matter of fact, extremely conservative and substantially lower than that established by the Court in the prior case. The capacity covered by the Master's findings was, as stated, 108,500,000 cubic feet. The maximum day's output in the winter of 1919-1920 was, as stated, 99,243,000 cubic feet. The reserve thus provided was 9,257,000 or 9.3 per cent. of the maximum day, which explains why the increase in the maximum day, of 72.7 per cent. exceeds the increase in plant capacity, of 52.8 per cent. If the Master had included the entire investment in the new Astoria unit and the entire capacity thereof (30,000,000 cubic feet), it would have added to the investment in complainant's gas business $2,250,000 and to the plant capacity 15,000,000 cubic feet and have provided a reserve over the maximum day's output (99,243,000 cubic

feet) of 24,257,000 cubic feet or 24.4 per cent. in which case the increase in plant capacity would have amounted to 73.9 per cent. as compared with the increase of 72.9 per cent. in the maximum day's output.

Having thus established the reasonableness, not to say the ultra-conservatism, of the Master's findings respecting the *quantum* of property required in complainant's gas business as well as the minimum amount ($74,854,351.14) upon which the appellee is entitled to earn a fair and proper return, there remains to be considered the operating costs, as established in the testimony before the present Special Master, in its relation to that found by Judge Hough in the prior case.

Comparison of Findings As to Revenues and Expenses of the Appellee's Gas Business in the Prior Suit and Those of the Master in the Present Suit

We have already, on pages 45 to 48, *ante*, shown in comparison the appellee's *actual* operating revenues and expenses, for the year 1918 and the first eight months of 1919, adjusted so as to give effect to all the eliminations and deductions made by the District Court, and then taken on the basis adopted by this Court in the prior suit. We may now carry that comparison a step further. The cost, per thousand cubic feet sold, of manufacturing and distributing gas, including maintenance and taxes, as found in the prior suit (157 Fed. 849; 212 U. S. 19) was as follows:

	Appellee's Own Gas (Record on appeal, p. 432)	Purchased Gas Record on appeal, p. 426)	Total
Gross Income	$10,825,027.30	$4,000,000.00	$14,825,027.30
Expenses	6,809,552.28	*1,414,282.57	8,223,834.85
Net Earnings	4,015,475.02	2,585,717.43	6,601,192.45
Deduct interest on Astoria Plant	.....	720,000.00	720,000.00
		1,865,717.43	5,881,192.45
Less 20 cents per thousand cubic feet sold**			2,856,600.00
Net earnings at 80-cent rate (Record, prior suit, p. 430)			$3,024,592.45

*Astoria Holder Cost @ 32c. equals..... $1,280,000.00
Astoria Works, Taxes and Expense.... 134,282.57
$1,414,282.57

**Judge Hough's deduction of 20 cents is computed as follows:

(Record, p. 407) "On volume of sales for 1905" (13,283,163,800 c. f.) equals	$2,656,600.00
(Record, p. 428) "Such additional sales of a billion feet" at 20 cents	200,000.00
(The actual additional sales being 4,000,000,000 cubic feet (p. 407) less purchased gas 2,863,702,341 cubic feet (p. 405) or 1,136,297,659).	
Total	$2,856,600.00

The total sales as found in the prior suit were as follows:

Actual sales in 1905 (as above)	13,283,163,800 c. f.
Assumed additional sales (as above)	1,136,297,659 c. f.
Total	14,419,461,459 c. f.

The total expenses given above ($8,223,834.85) which did not include any return on investment, divided by the sales (14,419,461,459 cubic feet) establish the cost per thousand cubic feet sold as found by Judge Hough to have been 57.03 cents.

The Master in the present case found the cost of gas, excluding any return upon investment, to be 75.18 cents per thousand cubic feet sold (Report;

Finding No. 61), an increase, as compared with the finding as of 1906, of 18.15 cents per thousand cubic feet sold—an increase of 31.82 per cent.

Increases in Unit Costs of Gas-Making Materials and Labor from 1906 to 1919.

The fact that this increase, also, is well within what might be justified and sustained from the evidence in the case as to the increase in the cost of materials and labor in 1919, as compared with 1906, will be seen from the following:

	Price	Per Cent of Increase
Gas Coal (Average cost, gross tons).		
1906 (Report to Comm. of Gas & Elec. in evidence, p. 21)	$3.10	
1919 (Exhibit 486)	$5.715	84.4
Generator Coal (Average cost, gross tons).		
1906 (Report to Comm. of Gas & Elec. in evidence, p. 23)	$4.30	
1919 (Exhibit 486)	$6.713	52.6
Steam Coal (Average cost, gross tons).		
1906 (Report to Comm. of Gas & Elec. in evidence, p. 23)	$3.66	
1919 (Exhibit 486)	$6.315	72.5
Gas Oil (Average cost per gallon).		
1905 (Record 3928)	4.23c	
1919 (Exhibit 486)	6.80c	60.8
The candle-power standard for the first 6 months of 1905 was 20 candles in comparison to 22 candle-power thereafter; 5 per cent more oil therefore was necessary in 1919, making the increase for the same quantity of production		68.8
Labor (Average rate, per hour).		
1906 (Exhibit 351)	21.58c	
1919 (Exhibit 351)	45.57c	111.2

In view of the increase in the cost of coal, gas oil and labor, which form the bulk of the complainant's costs, it is obvious that only by the most rigid economy could the complainant have kept its cost of gas, as compared with the cost in 1907, at any such figure as the Master found. Likewise, it is evident that only by the maintenance of the highest efficiency in the operation of its manufacturing plants could the appellee have taken on the additional volume of business and

met the increase in the maximum day's demand since 1906 with such a disproportionately low increase in the investment as has been shown.

While we do not question that the method, adopted by the Master, of finding and stating the investment in all of the land, plant and equipment required by complainant in its gas business, including that owned by other gas companies, and of finding the cost of manufacturing and distributing all of the gas sold by the complainant, regardless whether the gas sold was produced in complainant's own plants or in the plants of others, gives adequate and exact indication of the effect of the 80-cent rate, we believe that for the purpose of observing the present effect of the 80-cent rate *upon the complainant company individually,* as well as for purposes of comparison with the conditions established in the prior case, upon the basis of which the opinion was rendered in that case, recourse must be had to the method adopted by Judge Hough, and the findings of the Master adjusted in accordance therewith. In other words, the question is: What is the present amount, in respect of the earnings of the complainant company which may be compared with the $3,024,592.45 found by Judge Hough and upon which this Court based its prior opinion.

The Master's aggregate investment of $74,854,351.14, includes the investment in the Astoria plant, the Astoria tunnel and in one-half of the cost of the new Astoria unit, which are not directly owned by the complainant, which aggregates $24,597,957.15 (Report; Finding No. 63); the balance, representing the complainant's direct investment in its gas business, being $50,256,393.99 (Report, Findings Nos. 63, 65, 69).

The Master's computation of the amount earned under his findings (Report; Finding 72) is based upon assumed sales of 19,000,000,000 cubic feet (the actual sales for the nominal year ended October 31, 1919, having been 18,321,589,800 cubic feet, Exhibit 382), an average selling price of 79.91 cents, a net cost of gas delivered of 75.18 cents, and a profit of 4.73 cents per thousand cubic feet of gas sold.

With these factors we are able to set up the following comparative table, showing the appellee's net earnings upon the investment only in *its own* property used in its gas business:

	Judge Hough (p. 285 supra)	The Master
Gross Income*	$11,968,427.30	$15,182,900
Expenses	8,223,834.85	14,284,200
Net Earnings	3,744,592.45	898,700
**Interest on Astoria Investment	720,000.00	***1,967,837
	$3,024,592.45	Def. 1,069,137

* At $1.00 per thousand $14,825,027.30
Less 20 cents per thousand 2,856,600.00

At 80 cents per thousand $11,968,427.30

** Astoria plant capacity in 1906 was (a) 20,000,000,000 c. f.
Astoria plant capacity included by Master 65,000,000,000 c. f.

*** Computed conformably to the Master's Findings at the rate of 8 per cent. on $24,597,957.15.

(a) Judge Hough's opinion (p. 407) that the Astoria plant "was calculated for four billion feet" per annum was based upon testimony that the annual output of a gas plant was approximately 200 times its daily capacity (20,000,000 x 200 equals 4,000,000,000) which would be true, as of that time, with plant providing a reserve capacity of about 25 per cent. (actually 23.7 per cent. at that time, as indicated on page 270, supra). At present, owing to the excessive peak winter demand the annual output is less than 200 times plant capacity with a 25 per cent. reserve.

Appellee is thus shown to have had, as of the time of trial an annual operating deficiency of at least $1,069,137, and to have been earning nothing whatsoever upon *its own* investment of $50,256,393.99.

POINT X

THERE IS NO MERIT IN THE SPECIAL DEFENSE BASED ON CLAIMED NON-COMPLIANCE BY THE APPELLEE WITH THE 22-CANDLE POWER STANDARD, AND NO MERIT IN THE APPELLANTS' OTHER CONTENTIONS ARISING OUT OF THE SAME SUBJECT-MATTER.

The defendants at various times placed perhaps chief reliance, at the trial, on their utterly unsuccessful effort to prove that the complainant had failed to comply with the provisions of Chapter 125 of the Laws of 1906 in relation to candle power. After prescribing the rate to be charged for gas, the statute contains the following (Complainant's Exhibit 12; Record, pages 15,939, 15,940):

> "Sec. 2. The illuminating gas furnished by any such corporation, association, co-partnership or person shall have an illuminating power of not less than twenty-two sperm candles of six to a pound, burning at the rate of one hundred and twenty grains of spermaceti per hour tested at a distance of not less than one mile from the distributing holder by a burner consuming five cubic feet of gas per hour and each one hundred cubic feet of gas shall not contain more than five grains of ammonia nor more than twenty grains of sulphur nor more than a trace of sulphuretted hydrogen. The pressure of illuminating gas in any service mains in the said city at any distance from the place of manufacture shall not be less than one inch, nor more than two and one-half inches.
>
> "Sec. 3. Any corporation, association, co-partnership or person violating any pro-

> vision of this act shall forfeit the sum of one thousand dollars for each offense to the people of the state.
>
> "Sec. 4. This act shall not apply to gas furnished or sold to the city of New York."

The Special Master found as a fact that the appellee had complied fully with the provisions with reference to candle power and the requirements of law regarding pressure (Finding No. 74; Record, page 41a). He said further in his Opinion (page 58a):

> "I am not at all satisfied that the City inspectors were in all cases correct in their observations. The gas was not tested in the manner which the statute seems to require. It is unnecessary for me to go into the details of this gas testing. Much depends on the accuracy of the vision of the testing observer. It appears to be conceded that in order to make a twenty-two candle power gas it should be made of a twenty-three and a half candle power at the works. I as satisfied that the gas made by the complainant company was always at least twenty-three and a half candle power."

The Master further based his finding upon an opinion of the Honorable Oscar S. Straus as Chairman of the Public Service Commission for the First District on October 13, 1917, detailing certain tests of the appellee's gas by the Commission's engineer (who was also a defendants' witness upon the trial of this case). It was specifically found by Mr. Hine at that time and reported by the defendant Commission, on the basis of hundreds of tests, that the average candle power furnished by the company throughout the district tested well in excess of twenty-two candles

(Master's Opinion, pages 58a and 59a; Record, page 14,360; Complainant's Exhibit 406, page 17,020).

The view of the Master regarding the desirability of continuing the candle-power standard is made the subject of much complaint in the brief filed herein by the Corporation Counsel. Several quotations from the record are claimed to indicate a bias or prejudice of the Master against the twenty-two candle power standard as a test of the quality and utility of gas sold. Apart from any evidence offered by the appellee, the views of the Master concerning the merits of the twenty-two candle power standard, expressed by him in his Opinion (Record, page 59a), were fully justified by the declarations of the principal witness on behalf of appellants, and the only one who had any claim to any experience or expert knowledge of gas manufacture. The witness Little (page 11,318), when asked whether he considered the candle power standard a proper way to measure the quality of gas, answered, *"I think it is a crime, that is what I think."* He further stated that among gas engineers throughout the country there was no difference of opinion whatsoever upon that subject and that the British thermal unit system was the recognized modern standard for the testing of gas.

The appellants' witness Barnum, an officer of one of the principal gas companies in the State of Massachusetts, testified that candle power is obsolete in Massachusetts and almost everywhere else except in New York (Record, page 11,531).

When appellants' own witnesses condemned the statute, it is not strange that the Master concluded it was obsolete and of no benefit to the public.

The Court found that the situation with respect to candle power was far short of that persistent and deliberate disregard of a statute which would turn the company from a court of equity. He found that in 1916 and in 1919 the average of all tests of candle power taken by the city was never below twenty-two for any month and in 1917 the average did not fall below twenty-two to exceed 1%. Such so-called "violations" as the Court concluded existed he found were waived by the city; he found that the statute was not a useful one and was wasteful of oil, and that such a plea came from the city "with the illest grace to defeat a suit so vital to the company" (Record, page 152a).

1. The Equitable Maxim Does Not Apply.

The appellants strenuously urge, as they did in the Court below, that under the maxim of equity, "he who comes into equity must come with clean hands," the appellee is barred from relief against confiscation of its property, because during a period of four years prior to the trial the candle power of the gas furnished by it was on isolated occasions not of the standard permitted by the statute.

This objection has been urged by the defendant public authorities in all of the gas cases that have been tried in the Southern District of New York, and has been adversely passed upon in all of them, in opinions written or concurred in by Circuit Judges Ward and Hough and by District Judges Mayer, Learned Hand, Knox and Grubb. For example, on the application of the appellee for a temporary injunction, Ward, C.J., and Grubb and Knox, D. JJ., held:

> "It is argued that the plaintiff does not come into equity with clean hands because it has not furnished gas of the candle power required by the statute and therefore is entitled to no relief. The Special Master has found that this is not the fact but if it were it would be no justification for confiscation of the plaintiff's property. Public officials have taken no action to enforce compliance though fully advised of the situation. Furthermore the plaintiff will be denied relief in equity only when he has a remedy at law; but we know of no remedy at law whereby this plaintiff could recover either from its customers or from the State of New York any losses that it will sustain if the statute be held on final hearing to be unconstitutional because confiscatory."

Appellants cite in support of their claim Section 397 of Pomeroy on "Equity Jurisprudence," but fail to quote Section 399, which sets forth the limitations of the maxim referred to. The learned author said in Section 399:

> "When a court of equity is appealed to for relief it will not go outside of the subject matter of the controversy, and make its interference to depend upon the character and conduct of the moving party in no way affecting the equitable rights, which he asserts against the defendant or the relief which he demands."

In *Lewis' Appeal*, 67 Penn., 166, the rule is said to refer only to "willful misconduct in regard to the matter in litigation."

The case of *Michigan Pipe Company vs. Fremont Ditch Company*, 111 Fed., 284, relied upon by appellants, is not in point. It illustrates, how-

ever, the exception to the rule which we have just pointed out. In that case relief was denied complainants, because of their "unconscionable attempt to take from the defendants their rights in this property by stealth and sharp practice" (111 Fed. 289).

It would be a strange doctrine indeed if the property of a public utility furnishing one of the necessities of civilized existence, may be freely confiscated through the medium of inadequate rates, and relief from such confiscation denied the company, simply because on a few occasions years prior to the filing of suit, the gas furnished by it, tested by the unreliable methods used by the city, appeared to be slightly deficient in candle power.

2. Appellants' Proof Failed to Show Non-Compliance and in Fact Affirmatively Showed Compliance.

It was admitted by defendants' principal witness, Mr. Little, that in order to produce gas testing twenty-two candle power one mile from the works, it is necessary to make on the average 23½ candle power at the works. If this is kept up the candle power on the district should be twenty-two (testimony of Mr. Little, page 11,354).

The defendants themselves placed in evidence the manufacturing records of the company for its 21st Street and 99th Street works and these records showed conclusively the making of candle power amply sufficient to insure twenty-two candle power upon the district. In addition the records of tests taken by the company to keep a check of the tests made by the city also show full compliance with the candle power standard throughout the four years concerning which proof

on this subject was offered (the question of candle power during the period when the United States Government was extracting toluol for war purposes from the gas will be considered later.)

The following are the principal exhibits offered by the defendants in support of their desire that the inference be drawn that there was formerly a persistent and willful violation of this twenty-two candle power requirement:

Defendants' Exhibits AA430-436, record pages 18,769, etc.—Copies of sworn report of gas inspectors from 1916-1919.

Defendants' Exhibits AA438-441, record pages 19,000 etc.—Tables of logarithms used by city testers in computing corrected candle power.

Defendants' Exhibits AA460 and 461, record pages 19,042, etc.—Monthly summaries of candle power inspections, 1916-1919.

Defendants' Exhibits AA522-523, record page 19,600—Comparison of city tests and company tests as disclosed by the company's manufacturing book introduced in evidence by the defendants.

Complainant's Exhibit 477, record page 17,310—List of 510 test sheets in which errors in computation were found by the company's witness (see Record, page 14,096).

Examination of these exhibits will show that throughout the entire period (except during the period of toluol extraction hereafter mentioned) there was a substantial compliance by the company with the candle power standard. Day after day and month after month the tests show twenty-

two candle power or better at all of the stations. Judge Hand found that the greatest violation amounted to no more than 1%. Such proof falls far short of showing a continuous, wilful, and avoidable disregard of the statute. On the contrary, it shows, affirmatively, reasonable and substantial compliance.

Furthermore, the method of making a test, which was voluminously explained by the city testers called by the defendants, throws great doubt upon the accuracy of the tests. Although the statute heretofore quoted calls for a standard of twenty-two candles of six to the pound consuming 120 grains of spermaceti per hour, the test was uniformly made with candles of twelve to the pound consuming 240 grains per hour, *more or less* (Record, pages 12,839, 12,847).

The human element is present in the test as the tester is obliged to determine by his eyes when the luminosity of the candles and the gas flame being tested are equal, and to take his readings from his machine at that moment (Record, pages 12,687, 12,762, 13,218).

But after ten successive readings in ten minutes, the tester's work is only begun. He must by means of complicated logarithmic calculations make allowance for the length of time in which the candles burn 40 grains, for the barometric pressure, for the temperature of gas, and must then compute with the aid of these logarithms the so-called "corrected" candle power which is reported to the City authorities.

Even a skilled city tester upon the witness stand was unable to arrive at the same result on going over his work a second time (Record, page

13,625); and the investigators of the appellee, who examined many thousand test sheets placed in evidence by the appellants, found in the short period of three days 512 erroneous calculations, a number almost equal to the total number of violations claimed in the four years on behalf of the appellants (testimony of Mr. Terry, Record, page 14,096; Complainant's Exhibit 477, Record, page 17,310).

It is unnecessary to treat in further detail these voluminous exhibits; there is ample support for the finding of the Master as confirmed by the Court of full and substantial compliance by the appellee with the requirements of the statute.

The appellant Attorney-General prints, on page 302 of his brief, a table of alleged "violations." It is unnecessary to burden this Court with an analysis of the voluminous exhibits said to support this table, but we point out that a great number of these so-called "violations" consist of instances where the tester, using the faulty methods employed by the city, arrived at the conclusion that the candle power of the gas was 21.99 or 21.90, or some other amount less than 22 by only a slight fraction not even large enough to account for the admitted variation due to the fact that the observation in the first instance is the result of the tester's eyesight. Even at that, these isolated instances do not affect the averages which constitute a fair test; they fall far short of showing willful non-compliance or even carelessness as to compliance.

If the Court will inspect some of the tester's work sheets (Exhibit AA452, page 19,017), it will be apparent that no reliance can be placed on the complicated mathematical calculations necessary

to translate, for example, "observed illuminating power 21.48," into "corrected illuminating power 22.02." In the very first example on page 19,017, the candles burned at the rate of 125.7 grains per hour instead of the 120 prescribed by the law.

The appellants cannot escape the conclusions that (1) the appellee constantly made at its works gas of the quality said by appellants' only expert to be necessary to supply 22 candles on the district; (2) the appellants' proof shows that, by the city's own tests, the appellee constantly furnished gas of 22 or more candle power on the average.

Other apparent candle power violations claimed by the appellants, occurring during the excessively cold winter months of 1918 and 1919, are fully explained by the testimony of Mr. Addicks (Record, page 14,401), with respect to the effect on candle power of gas mains exposed to the weather. During that period over thirty-five miles of the company's mains in the City of New York were during the excessively cold weather carried over-head or on the street exposed to the elements on account of subway construction ordered by the City of New York and by the defendant Public Service Commission. The effect of this exposure to cold causes the light oils, which constitute the illuminating quality of the gas, to be condensed and to drop out of the gas. These are not picked up again when the gas is subsequently raised to a higher temperature (Record, page 14,303). A glance at Complainant's Exhibits 479 and following (Record, pages 17,412 and following) and at the photographs Exhibit 483 immediately following these maps, taken in conjunction with the record of temperature throughout this period (Exhibit 478, pages 17,321, etc.), offers

ample explanation for any supposed deviation from the twenty-two candle power standard. They are all due to causes beyond the control of the company.

3. The Period of Toluol Extraction by the Government

During the winters of 1917 and 1918, the United States Government was seeking by every means to increase its supply of toluol, a form of light oil used in the manufacture of trinitro-toluol, commonly known as T. N. T., a high explosive used in the manufacture of munitions of war. Toluol is present in large quantities in illuminating gas and by a certain treatment known as stripping or scrubbing, this light oil can be extracted from illuminating gas. On December 21, 1917, the War Department, pursuant to the powers vested in it by the Act of Congress, known as the National Defense Act, issued a procurement order to the appellee directing it to deliver all of its gas manufactured to the government for the purpose of the extraction of the light oil by means of apparatus to be erected by the government (Complainant's Exhibit 340, introduced pages 4,354 and 15,548). The company had no choice but to comply with the procurement order or suffer the commandeering of its plants. Testimony in detail of the process and of what was done pursuant to this order is found in the record beginning at page 4,338.

Pursuant to the procurement order, contracts were entered into at both water gas plants of the appellee in New York, pursuant to which the United States Government erected an extracting plant, and, beginning in April at the 23rd Street plant, and in July at the 99th Street plant, all of

the gas manufactured at those plants was passed through the government extracting plant and stripped of its light oil. The effect of this stripping process was to reduce the candle power of the gas. This candle power could be to some extent restored by placing back in the gas benzol, a form of oil remaining after the extraction of toluol. Under its contract, however, the government took title to all of the light oils extracted and it placed back in the gas only such oil as it saw fit. The government authorities, particularly the War Department, absolutely controlled the candle power of the gas at the outlet of the company's holder during the entire period of extraction (Complainant's Exhibits 489-493, Record, pages 14,401, 17,438, etc.). It was impossible to re-enrich the gas so reduced in candle power so as to produce twenty-two candle power on the district (Record, page 14,322).

Toluol extraction ceased soon after the armistice in the latter part of 1918, but the mains of the company had become so dried out of oil on account of the dry gas passing through them, that for a month or more there was an unusual loss in the candle-power of the gas after it left the works. As soon as the mains had regained their normal condition the furnishing of the required candle-power on the district was again practicable; the subsequent departures from it have been rare and the average well about the standard.

It is upon the foregoing that the appellee would charge the complainant with bad faith amounting

to fraud in not delivering to its consumers twenty-two candle power gas during the period of commandeering by the Government of the appellee's plant, for the purpose of affording munitions of war.

That the procedure adopted by the United States Government constituted duress of law is not open to doubt. Section 120 of the National Defense Act authorized the President in time of war, through the head of any department, to place an order with any individual, firm or company for any products or commodity produced by them. Compliance was obligatory and upon delay or refusal the President could take immediate summary possession of the plant. Failure to comply was a felony. Compensation was to be fair and just, to cover cost but no profit.

The company under the contract in evidence was to use and did use the quantity of oil which would produce twenty-two candle power on the district. The military power of government reduced this to the figures actually resulting. A similar order in the case of *Nitro Powder Company vs. Agency of Canadian Power & Foundry Company,* New York Law Journal, March 29, 1918, was held to be *vis major* and a complete defense to an action by a buyer for failure to deliver goods which had been commandeered by the government.

To the same effect are *Roxford Knitting Co. vs. Moore & Tierney, Inc.,* 265 Fed., 177, and *Mawhinney vs. Millbrook Woolen Mills,* 231 N. Y., 290.

In *Roxford Knitting Co. vs. Moore & Tierney,* the Circuit Court of Appeals for the Second Cir-

cuit held that under the National Defense Acts no particular form of order is essential, so long as the manufacturer is given to understand that he has no option to refuse. The Court said (265 Fed., 191):

> "And when a manufacturer is given to understand that he is required to supply certain goods to the government of the United States, and is told that he has no option to decline to comply, we are satisfied that as to those goods an 'order' has been placed or received within the spirit and intent and the letter of the statute, whether the authoritative direction is written or oral, and notwithstanding the fact that the parties actually come to an agreement in what has the form of a contract. Substance is not to be sacrificed in such cases to form."

The appellee in this case received first a procurement order (Exhibit 340, page 15,548), followed later by a contract. There is no question that compliance with the demand of the War Department for toluol was obligatory (page 14,379). The civil obligation to furnish gas of twenty-two candles was necessarily subordinated to the exigencies of public necessity. As Judge Hand said in disposing of the appellant's claim on this point, "More hardly seems necessary than to allude to such a sorry plea in a court of equity" (Record, page 152a).

4. The Alleged Unliquidated Claim Against the United States

The appellants assert that on account of the toluol operations, the appellee has an unliquidated claim against the United States Govern-

ment of possibly vast amount arising out of toluol extraction, which if successfully liquidated and collected will affect the cost of gas in 1918. But this case is not concerned with indemnities for losses caused by this extraordinary contract, but only with the actual and normal cost of gas furnished to the consumer. The Special Master grasped this point clearly (Record, page 4,413). It is true that the City of New York, claiming that the company was not furnishing gas of the requisite candle power, withheld payment of certain of the bills of the appellee for gas furnished to the city (Record, pages 4,405-4,408). The contracts (Exhibits 341-343) have been held open pending adjustment of the claim of the company against the government on account of these withholdings by the city. There is no evidence whatsoever that any consumer of the company, other than the City of New York, made any complaint on account of the extraction of toluol or attempted to withhold or resist payment of bills rendered by the company for gas furnished.

The contracts with the government provide for indemnity against any loss occasioned on account of claim for inferior gas, but this is for *indemnity* only. That is to say, if at any time the company suffers an actual loss of revenue on account of any such claim, such loss will be indemnified and reimbursed by the United States Government. The word "indemnity" presupposes loss. There can, therefore, be no recovery of any sum from the government until one or more consumers have successfully inflicted a loss upon the company. Hence, any sum so collected from the government

can have no possible effect upon the cost of gas in 1918. The actual outlay by the company on account of toluol extraction has been reimbursed by the government (Exhibit 344, Record, page 16,575).

Toluol extraction ceased within a few weeks of the signing of the armistice in November, 1918, and in no way entered into the calculations for the cost of gas in 1919 and, therefore, can have no possible effect upon the Master's findings, nor those of the Court, as to the cost of gas for the first eight months in 1919, nor as to the normal reasonable cost of gas under ordinary circumstances as of that period. Possible future reimbursements by the United States Government on account of some possible future claim by some unknown consumer can have no possible effect upon the cost of making and distributing gas, which is the real issue in this case.

POINT XI

THE FIGURE OF $2,000,000 FOR WORKING CAPITAL, ASSUMED BY THE DISTRICT COURT FOR THE PURPOSES OF ITS DETERMINATION OF THIS CASE, WAS FAR TOO LOW, AND THE SUGGESTION OF FURTHER REDUCTION IS ABSURD.

The demand of the appellants (Attorney-General's Brief, page 270), that the allowance for working capital be reduced to no more than $1,300,000, illustrates their unfairness and utter disregard of business actualities.

In the prior suit (212 U. S. 19), the allowance for working capital was $3,616,000. The *actual* working capital between 1906 and 1920 ranged from $3,693,620 to $4,625,000 in 1918 and more than $5,000,000 in 1919 (See Exhibit No. 497, reprinted on page 263, *ante*. From 1906 to 1920, the appellee's sales of gas, upon which admittedly the requirements for working capital very largely depend, increased 39 per cent. Nevertheless, the Special Master in 1920 allowed only $184,000 more than in 1906—an increase of only five per cent. The District Court, without undertaking to determine the *full* amount required, assumed a figure of only $2,000,000, saying (Record, page 181a):

> "For working capital I take two million dollars, not because I mean to fix any such sum, but as a conservative compromise between the plaintiff's* figure of $3,800,000

*(The District Court was in error in ascribing the figure of $3,800,000 to the plaintiff, that figure being the one adopted by the Master as virtually admitted by the appellants' principal witness. The appellee proved the sum should be at least $4,625,000.)

> and Maltbie's of $1,480,000. It is in fact probably much too low, and it is clear that in spite of his subsequent testimony Little meant originally to say that there was a fairly constant proportion between working capital and production. His figure of twenty cents which at that time he gave as a minimum is twice what I have taken here."

Although the 1906 allowance approved by this Court was $3,616,000, and although the *actual* working capital has approached $5,000,000 in recent years, the appellants assail the District Court for allowing $2,000,000 and urge the reduction of this figure to no more than $1,300,000!

There may be differences of opinion as to the value of plant and other fixed capital, but there can hardly be controversy as to the floating or mobile capital also used in carrying on the gas business. Working capital may be in the form of cash requirements or in the form of materials and supplies on hand for use. Certainly under the conditions of the past few years, when deliveries of coal, pipe, and other materials were so carefully husbanded by governmental supervision, a utility struggling along under a rate barely yielding labor and material costs will hardly be regarded as having on hand excessive cash or excessive materials and supplies. The Uniform System of Accounts prescribed by the State of New York for its gas corporations makes two sub-divisions of working or floating capital (Complainant's Exhibit 15; Record, page 15,980). One of these is "materials and supplies" and the other "current assets," the latter being again sub-divided into cash, bills receivable, accounts receivable, etc.

In addition to proving its *actual* working capital over the period, the appellee gave detailed testimony, through Mr. Carter, its vice-president in charge of financial requirements, showing the need for at least $4,625,000 (Record, page 8392). The only witness produced by the appellants who could claim any degree of experience or competency to testify upon the subject, Mr. A. S. B. Little, gave it as his opinion that the required working capital of such a gas company might vary from 20 to 25 cents per thousand cubic feet of annual sales (Record, pages 11,326 *et seq.*).

The Master accepted this figure of 20 cents per thousand, given by the appellants' own expert, and, estimating the annual sales as of the time of the closing of the trial to be 19 billion cubic feet, he arrived at a figure of $3,800,000 as the required working capital of the appellee, (Record, page 70a).

This allowance of $3,800,000 was on account of the working capital requirements of the appellee alone. The Special Master also included about $1,700,000 for working capital by the Astoria company, in stating *from the defendants' exhibits* the value of the latter's property used in making and transmitting gas for the appellee's consumers. The District Court, in addition to cutting the $3,800,000 figure to $2,000,000, omitted working capital altogether from his valuation of the Astoria property, leaving this paltry $2,000,000 to do service for both. His omission of working capital at Astoria was in face of the fact that the *defendants proved actual Astoria working capital of $1,700,000.* This aggregate figure of $5,500,000, taken by the Special Master, *wholly from the*

defendants' own testimony and exhibits, the District Court reduced to $2,000,000, and the appellants would further reduce it to $1,300,000, although *the appellants themselves proved $1,700,000 for Astoria alone.*

The appellants would have this Court draw the inference that the Master, without any justification in what had transpired, compelled the witness Little to give testimony concerning working capital and then used what was wrung from him. Inspection of the transcript of Mr. Little's testimony shows the fallacy of this. His testimony was introduced in the form of a written report covering many pages (Record, page 11,187). It is printed in full in the record beginning at page 11,189. He was thereafter cross examined upon this report exactly as if he had testified orally to all the matters therein contained. At page 11,326 of the record, he was asked on cross examination whether he in his voluminous report and many-phased computations, had made any allowance for working capital. He answered "I have in the Astoria." He then referred to Part 5 of his report, in which he had said that working capital is classified as "Return on materials and supplies in stock." The reference is found (Record, page 11,237) in the table headed "Amended Expense Figures." Item 2 is "Return on materials and supplies, $116,667." As Mr. Little was here computing a return at seven per cent. upon the investment in the plant, it is apparent that the amount in item 2 presupposed a working capital, for Astoria operations, of approximately $1,666,670, which is not far from the figure of 20 cents per thousand cubic feet of annual sales, which the Special Master found to represent the reasonable minimum requirement.

The foregoing refutes the suggestion that Mr. Little's direct testimony did not deal with working capital. As a matter of fact his direct testimony, under Mr. O'Brien's examination, supported the Master's allowance of 20 cents per thousand as did also in greater detail the cross-examination. Turning again to the latter at page 11,327, it was developed that in the case of the Peoples Gas Light & Coke Company in Chicago (next to the complainant probably the largest gas company in the country), Little estimated a proper allowance for working capital to be 25 cents per thousand cubic feet of gas sold. On the next page he suggested that he thought this a little high and then, in response to questions from the Master, he made the answers quoted by the defendants in their brief. It is obvious that had there been no other testimony whatever upon working capital, the testimony of the defendants' witness Little was amply sufficient to justify and require the Master to fix the amount of 20 cents per thousand cubic feet of annual sales as a fair measure of the working capital necessary for the complainant company.

But the complainant contended upon the trial and still believes that the amount of $3,800,000 allowed by the Master for this item is below the appellee's absolute requirements. Certainly it should on no account have been reduced to any lower figure. A few comparisons in this regard will be interesting. Upon the organization of the complainant company in 1884 the sum of $1,303,000 was, in pursuance of the legislative plan, set aside as working capital. The sales at that time at 20 cents, would give the amount of $788,486.80 as the working capital upon Little's basis, only

a little more than half the amount actually deemed necessary by the officers of the new company and actually provided and used.

Again in 1906, working capital, figured at 20 cents per thousand upon 13,879,727,700 cubic feet, produces $2,775,945.54. At that time the working capital figured by the Master who heard the prior suit involving the 80-cent rate, was $3,616,000, a sum which exceeded by $840,054.46 the result reached by an application of Mr. Little's basis of 20 cents per thousand cubic feet of gas sold.

The amount of working capital allowed by the Master in the present case ($3,800,000) exceeded that allowed by the Master in 1906 by only $184,000, an increase of only 5 per cent., whereas the sales of gas in 1920 as compared with those in 1906 indicated an increase of 37 per cent. If working capital were to be increased over the 1906 allowance only in the ratio of increase in sales, the figure for 1920 would be $4,953,920 instead of $3,800,000, and if based upon the increase of sales from 1885 to 1920, taking the figure of $1,303,000 as the working capital provided pursuant to the legislative authorization at that time, would give a present working capital requirement of $6,279,626. Upon any basis of comparison with working capital, either upon past experience or upon the testimony of Mr. Little, a sum much larger than case is shown to be required.

Mr. Robert A. Carter, the Vice-President for many years in charge of the appellee's accounting department and fiscal policy, testified in great detail as to his practical experience as to the appellee's actual requirements for working capital, for

the year ended December 31, 1918, and for previous years back to 1906 (Record, page 8389 *et seq.*). At page 8392, he testified to the amount of $4,625,000 as the amount which in his judgment should be provided to meet the company's requirement for working capital. This was made up of accounts receivable, materials and supplies on hand and cash. He stated that he believed $1,500,000 is the smallest amount of cash which, on the average, the company should carry to meet its requirements and its obligations. The details of the accounts receivable applicable to working capital and the other items are shown in the complainant's Exhibits Nos. 401 and 402 (Record, pages 17,604-5). Full and complete cross examination on this subject is found at Record, page 8459 *et seq.*, and also at pages 8630 and 8631, where Mr. Carter stated upon cross examination by Mr. O'Brien:

> "My determination of the amount of working capital required was based upon my experience and observation of what the company has required for that purpose for a great many years. * * * I considered, for example, that the company's growing business would necessarily involve a larger amount of cash than it did twelve or thirteen years ago, or fourteen years ago. I took into consideration the fact that an increase of 50 per cent. in the company's sales would involve the requirement of a greater amount of provision for the item of 'Accounts Receivable,' for example."

On page 8632, he stated that if the company ever gets below $1,000,000 of cash on hand, he feels that they are "sailing very close to the wind." Mr. Carter omitted from his computations the amount of at least $1,000,000, represent-

ing cost of the gas which, at any given time, has been manufactured and delivered to the consumer, but has not yet been meter-read and billed, so as to be reflected in Accounts Receivable. Nevertheless, it represents a very real asset of the company and also an outlay already made but not yet reimbursed.

The evidence upon the subject of working capital offered by the defendants was through the witnesses Little, Sangster, Maltbie and Bemis. Mr. Little's testimony has already been referred to and amply sustains the Master's finding of working capital. Mr. Sangster was an expert accountant who made a report upon the Astoria property only, in which he recommended the sum of 15 cents per thousand cubic feet of annual sales as his estimate of working capital. He did not pretend to be qualified as a gas expert or to have had any experience in company management.

Professor Maltbie, formerly a member of the New York Public Service Commission, undertook to make an estimate of the necessary amount of working capital. From his cross examination upon the subject of working capital (Record, page 13,814 *et seq.*) it will be apparent that his computation was one of subtraction more than anything else, and that he omitted from his calculation many of the items such as gas delivered but not yet billed, which should be included in this category. He also fallaciously deducted the Accounts Payable from the Accounts Receivable, thus further depriving the complainant of a large amount of capital necessarily invested and tied up in the business, and absolutely essential to the proper operations of the company. Most persuasive are the figures, with which this witness was confronted during his cross examination,

of appraisals which he himself had made while a member of the Public Service Commission in three cases, where in the *Queensboro Gas & Electric* case in 1911 he allowed as working capital 25 per cent. of the company's operating expenses or 17 cents per thousand cubic feet sold; in the *Kings County Lighting* case in 1911 23 per cent. of operating expenses or 14 cents per thousand cubic feet sold; and in the *Brooklyn Borough Gas Company* case in 1913, 40 per cent. of operating expenses or 21 cents per thousand cubic feet of gas sold. The witness' attitude upon the witness stand in attempting to support his ridiculously low estimate of working capital was very obviously not tempered by the same sense of fairness and freedom from bias which may be assumed to have actuated him while he was a member of the Public Service Commission.

Professor E. W. Bemis, cross examined at page 13,599, *et seq.*, admitted having made a few casual visits to some of the plants of the complainant company, lasting for half or three-quarters of an hour, and having had an accountant make up a number of figures for him. He also admitted (Record, page 13,609), that he had no engineering experience and had never had anything to do with the management of a gas plant, and had never been employed in any capacity in private industrial enterprises. At page 13,611 begins a series of admissions which he made concerning items which he had failed to take into account in computing working capital. Within a few pages it was developed that he really knew little or nothing about where he got his figures or whether he had correctly copied them, or whether certain essential elements were included or not. Without entering into great detail, it appears sufficient to

say that the cross examination developed that this witness' work was so crude and careless, even as to mathematical computation, that his estimate on working capital was of no value whatsoever and was rightfully disregarded by the Master.

The only point of serious moment in Mr. Maltbie's testimony on this subject was his claim that Accounts Payable should be deducted, in computing working capital, from Accounts Receivable. This is disposed of by Mr. Teele, a certified public accountant of high standing and great experience, who testified in rebuttal (page 14,261) as follows:

> "If the question is the determination of working capital employed, then neither accounts payable, nor any other liability, should be deducted from the assets. I can conceive of no situation where they would be deducted unless in setting down the amount of cash required to be used as working capital there was included in that cash an amount sufficient to discharge the liabilities. In that case the current liabilities might be deducted, but if the working capital employed in any business venture is being considered, and not the working capital to be contributed, then the liabilities have no part in the determination whatsoever."

It seems obvious that this is the correct view. If accounts payable are to be considered in determining the amount of working capital, which the company must have, then it necessarily follows that that company whose credit is the best will have the smallest working capital. For example, two companies having exactly the same amounts of accounts receivable might easily have on the other side of the balance sheet very differ-

ent amounts of accounts payable. That company whose credit was poor would have a smaller amount of accounts payable to be deducted from the receivables in computing working capital, while the other company, able to obtain credit in large amounts and for longer periods, would have a very much larger amount of payables to be deducted and would consequently have the lesser working capital, an anomalous situation which would seem to require no further argument.

The appellants find fault with the Master for computing at $1,700,000 the additional working capital required for the Astoria operations. The appellants are in no position to make this criticism, as the Master took his findings with respect to Astoria property *wholly from the defendants' exhibits and testimony*, no testimony of any kind with respect to Astoria operations or property having been placed in evidence by the complainant in the first instance. The books of account of the Astoria Company were introduced by the defendants and an expert accountant employed by them introduced voluminous tables and reports in the form of testimony concerning both the operations and the property investment of the Astoria Company (Record, page 11,690). On page 40 of this report (Record, page 11,738), this expert accountant says:

> "Having considered these various elements carefully, I have computed the average in terms of cents on the sales and find that for the Astoria Company it approximates 15 cents per thousand cubic feet of sales, and I have adopted this unit for working purposes."

Bearing in mind that the Astoria Company has no distribution system and no sales activities, but turns over its entire output to the Consolidated

Company, this figure at 15 cents appears to be a fair comparative estimate for Astoria. On the same page, this witness submitted a table in which he showed the average investment as of August 31, 1919, to be $15,400,000, to which he adds working capital figured at 15 cents upon various assumptions by him as to the output of gas, which produced figures ranging from $1,500,000 to $2,250,000, or a total investment of $16,900,000 to $17,650,000. As these figures were offered by the defendants, we fail to see what grounds they would have for complaining now against their adoption. However, the District Court, as we have seen, reduced from $3,800,000 to $2,000,000 the working capital for the appellee's own operations and inadvertently omitted any provision at all for working capital required for Astoria operations, shown by the defendants themselves to be at least $1,700,000.

If change is to be made in the figures of working capital found by the Court, the amount should be substantially increased to correspond to the actual necessities and uses rather than decreased on some fanciful basis urged by the appellants. Certainly there was no justification in fact for the further reduction made by the District Court—and the remarks of the District Judge quoted above indicated that he did not consider the amount used by him to be fair. Indeed, if he had taken the average he intended to take—between the company's actual ($4,625,000), and the defendants' claim ($1,480,000)—he would have arrived at $3,052,500 as his figure for working capital.

POINT XII

THE DISTRICT JUDGE LEFT THE APPELLANTS (DEFENDANTS BELOW) WITH NO POSSIBLE GROUNDS FOR CLAIMING ERROR AS TO THE REAL PROPERTY INCLUDED BY HIM IN THE SO-CALLED "RATE BASE"; ON THE CONTRARY, HE ELIMINATED EVERYTHING THAT WAS POSSIBLY DOUBTFUL, SOME THAT WAS BARELY QUESTIONED, AND A GREAT DEAL THAT IS NEEDED, USED, AND UNAMORTIZED.

The appellants claimed upon the trial that certain parcels, or fragments of parcels, of land owned by the appellee were not used and useful in the gas business and should, therefore, be excluded from the "rate base." These claims may be classified thus:

1. The 14th Street and 42nd Street coal-gas plants.

2. The 57th Street branch office building and show-room.

3. Portions of the general office building.

4. Other miscellaneous parcels.

The land claimed by the company to be necessarily and reasonably used by it in its gas business was shown graphically by Complainant's Exhibit 178, to which convenient reference may be made. (Record, page 16,286).

As to the greater part of these items there was no dispute (Defendant's Exhibit AA303, Record, pages 18,559 and 11,603).

The appellee included in its Exhibit 178 only property actually used by it in the gas business, excluding therefrom various parcels of property of the kind ruled out by the Circuit Court in the previous suit and which were not definitely introduced into use since then, and several other parcels of property the use of which it did not wish to litigate for the purposes of this case. The defendants offered similar maps showing all of the property of the Company, both that claimed by it and that excluded by it from Exhibit 178 (Defendants' Exhibit AA426, page 18,077).

As to the disputed parcels, the Special Master found no reason, upon controverted evidence in which the judgment and experience of highly qualified persons sustained the action of the company, for undertaking to substitute a personal conclusion for the first hand judgment of the responsible operating officials of the company as to what property should be used in the gas business, and followed the appellee's classification of its property throughout (Master's Opinion, Record, page 61a).

The Master took for the value of the parcels used by the appellee the cost to the appellee as shown by the Exhibits 471 (Record, page 17,136) and 496 (Record, page 17,444; Master's Finding No. 63; Record, page 38a). The total of real estate taken by the Master was $10,647,062.94 (less a deduction for parts of general office building rented) and is included in the total of $38,675,393.99 in Finding No. 63. (See Exhibit 496, Record, page 17,444).

The Master also found (Finding No. 65, Record, page 39a), the value of each such parcel of land as fixed by the City taxing authorities as of October 1, 1918, totalling $9,531,275. He also found

that such amounts actually represent the sums for which such parcels of land would sell, under ordinary circumstances, if wholly unimproved (Finding No. 66, Record, page 40a). As is discussed under Point XIII, *post*, he refused, however, to use these sums as his basis for the "present value" of such land.

The District Court, firm in its policy of experimentally resolving all doubts against the company, excluded from consideration in the "rate base" the following land:

Fourteenth Street (occupied by 14th Street Plant)	$952,000
Forty-second Street (occupied by 42nd Street Plant)	1,357,000
Block 985, Lot 7	100,000
Block 989, Lot 1	7,740
Block 1457, Lot 6	15,000
Block 3236, Lot 1	70,000
Total	$2,502,240

This sum he deducted from the valuation of $9,531,275 testified to by the appellants' tax experts, leaving a balance of $7,029,035.

The appellee believes that none of these parcels should have been deducted by the Court; that any sound or fair "rate base" in this case should include the full amount of $2,502,240 so deducted; and that the drastic reductions made by the Court in the Master's allowances leave no ground for any assignment of error by the appellants.

The Court omitted from the rate base as found by the Master, not only all of the cost of the land

comprising the company's coal gas plants at 14th Street and at 42nd Street, but also all the investment in these plants. This deduction from the rate base amounted to a total of $5,733,250, made up of $2,309,500 for land (page 174a) and $3,423,750 for plant (Complainant's Exhibits 472 and 263; Record, pages 17,184, 17,309). In place of this, the Court included the entire new unit under construction at Astoria instead of one-half of the same as taken by the Master, thus adding to the "rate base" $2,250,000 and making a total net deduction of $3,483,250.

The above-stated contentions of the appellants will now be considered in their order:

1. **14th Street and 42nd Street Plants.**

In the winter of 1919-1920 the maximum day's sendout to the consumers of the Consolidated Company alone was 99,243,000 cubic feet of gas (Defendants' Exhibit AA526, Record, page 19,623), and for a whole week the average daily requirements approximated 93,000,000 cubic feet for the Consolidated Company alone and 155,000,000 for the entire system. To meet this maximum requirement the appellee had available the following manufacturing capacity:

14th Street plant, coal gas....	5,000,000	cu. ft.
42nd Street plant, coal gas....	4,500,000	" "
21st Street plant, water gas...	28,500,000	" "
99th Street plant, water gas...	5,500,000	" "
Astoria plant, coal gas.....	20,000,000	" "
Astoria plant, water gas.....	30,000,000	" "
	93,500,000	" "

From the foregoing it appears that including the 14th and 42nd Streets plants with their full capacity, the Consolidated Company had a manufacturing capacity several million feet less than its maximum day's requirements and that for seven consecutive days it had practically no reserve capacity whatsoever, and had to depend upon the plant of the New York Mutual Company.

Adding, as the Master did, one-half of the capacity of the new Astoria plant, or 15,000,000 cubic feet, produces 108,500,000 cubic feet plant capacity which, upon an assumption of a maximum day in 1920 of 100,000,000 (page 172a) shows a reserve capacity of only 8½ per cent. With the 14th and 42nd Streets plants deducted, *there would be no reserve at all!*

Adding to the 93,500,000 manufacturing capacity as shown above, the full capacity of the new Astoria unit of 30,000,000 produces 123,500,000 which shows a reserve over the possible maximum day of 1920 of only 23½% if the 14th and 42nd Streets plants are included and, if they are omitted (as was done by the Court) a reserve of barely 14 per cent. But, as the Court said:

> "When building a reserve, economy and prudence require a forecast of the future. The construction of a 30-million plant at Astoria decided on in December, 1919, was proper caution; some addition was needed; less would not have been economical" (Page 172a).

In 1919 and 1920, were the 14th and 42nd Streets plants non-existing, the Consolidated Gas Company would have had no reserve at all, and the entire Consolidated system would have been un-

able to furnish the required plant capacity to meet the maximum day's sendout of those years, the entire system having only the wholly inadequate reserve of 5.59% (Record, page 14,830). It is obvious that the 14th and 42nd Streets coal gas plants, although they ran only for a comparatively short time during the winter of 1919 and 1920, saved the inhabitants of the City of New York from the calamity of finding themselves without gas. Indeed the principal witness for the appellants upon this point admitted that if these two coal gas plants were discarded, additional plant capacity of an equivalent amount would have to be found elsewhere (Record, page 10,575). Had he been in charge he was unable to say whether during these two winters he would or would not have done what the company did, namely, fire up these plants, make some gas in them and have them in readiness for use to full capacity when the need arose. The sole claim of the appellants for striking out this large investment was the fact that these plants are old, not fitted with the most modern labor saving devices, and consequently a little more expensive to operate during the short period when they are operated than a modern coal gas plant. Defendants' Exhibit AA526 (Record, page 19,623) shows a production of gas by these plants running into several million a day over a long winter period, and establishes that when needed such plants can and do, make and deliver their maximum capacity of gas. It would have been nothing short of criminal for the officers of the Consolidated Gas Company to neglect having these plants available during the cold winters and to take the hazard of a failure of the supply of gas at a time when, owing to coal

shortages, the gas consumers looked to the company for fuel.

The 14th Street and 42nd Street plants (as distinguished from the structures and apparatus composing a gas plant), which have been in service for more than half a century and which for many years were the only plants supplying gas in a large section of the city, represent an investment in property devoted to the public service which will be confiscated if a return is not allowed thereon, either by their inclusion as useful property or as an unamortized investment in plant held in reserve. Units of plant are being constantly withdrawn from service and charged against earnings, thus being amortized. New units of plant and equipment take their place. This is constantly going on. By this means the service to the public is maintained at a high standard, economy and efficiency are promoted and the company's investment is maintained intact. Until other plant of corresponding capacity is provided to take the place of the 14th and 42nd Streets plants and the investment in these plants *has been amortized out of earnings*, they must be included in the property upon which the company is entitled to earn a return. Without an adequate rate such property cannot be amortized and replaced by modern plants.

We believe the foregoing makes it perfectly clear that not only was the Court fully justified in including all of the Astoria property, both the old plant and the new addition thereto, but would have been equally justified in including the 14th and 42nd Streets plants as well, the reserve capacity resulting from such inclusion as of 1919 being

only 23½ per cent., a reserve which the Court found to be entirely proper and which with the increasing demand yearly made upon the company by its consumers will soon be reduced materially. It is apparent from the language used by the District Judge on page 178a that, had it not been his plan to resolve all doubt against the company, the 14th Street and 42nd Street plants would have been included in his rate base, as they were by Judge Hough in the prior suit.

2. The 57th Street Branch Office Building and Show-room.

The appellee maintains a three-story branch office building and display room on 57th Street, one of the principal business streets in the heart of the City of New York (Record, page 11,390), in which are the offices of the superintendent of the district, the bookkeepers for consumers' accounts, cashiers, and also a large display room for the display and sale of gas light fixtures and appliances of various descriptions. The detailed description of the use of this building will be found in the record at pages 291, 511 and 910. The property was acquired in 1916 and the building was finished on or about November 11, 1918. It is included in the rate base by the Court and the Master at $400,000 for the land and $294,718.47 for the building (Record, page 180a).

The appellants did not dispute the necessity of a branch office in this district. They undertook to criticise the placing of it upon a principal street instead of upon some side street where it would be out of the way and where space could be ob-

tained at less cost, and also undertook to criticise the building as a building only large enough to hold the gas company's offices instead of a twelve or thirteen story office or apartment building.

The appellee showed, however, the desirability and necessity of having an office of this kind upon a principal business street, easy of access to customers for the purpose of paying bills and valuable as an advertisement in the promotion of the sale of gas appliances and consequent increase in the sale of gas. The question of the nature of the improvements to be erected upon this property was extensively canvassed by the building committee of the appellee and its executive officers, and the recommendation of the appellee's architect that a building, designed only for the purposes of the gas company be erected, was adopted after careful consideration (Record, pages 14,045 *et seq.*, Complainant's Exhibits 469 and 470; Record, pages 17,133, 17,135). The result was the present building, which costs the gas company in carrying charges $1.88 per square foot as against $2.26 which it was obliged to pay for the premises previously rented by it in 42nd Street and where an increased rent was anticipated in the year 1916 (Record, page 14,069).

We believe the Court properly characterized the appellee's claim upon this point in saying:

> "I decline to harry the company with such factious vexations; their discretion may or may not have been right, but there is no ground to say that a clear error was made.
>
> "As to the site, the company had the right to build upon a thoroughfare, not on

> a side street. The public convenience justified it in having its quarters where they would become generally known; it might also have an eye out through the advertisement from such a location. Municipal authorities wisely select such streets for their enterprises."

The record amply justifies the action of both the Master and the Court in retaining this property in the "rate base" (Record, page 180a).

3. The General Office Building.

The appellee owns and uses a 19-story office building in which, in addition to the general offices of the appellee, are offices and show rooms for its affiliated gas and electric companies, as well as an auditorium, a restaurant, and other facilities of a general nature (Testimony of Stark, Record, pages 2819-20; Exhibit 186, pages 16,334 *et seq.*).

The space not used by the appellee is rented to others, and the expense of operating and maintaining the building is apportioned among the tenants, in the ratio of space occupied. Space used in common is apportioned in the ratio of the number of employees of each company. Upon this basis, the proportion of the building to be allocated to appellee, and included in the "rate base," is 35.26 per cent., or $1,099,983.04 (Exhibit 471; Record, pages 17,136, 17,162-3).

This is the figure used by the Master. The appellants sought to have the entire rentals credited to gas, which of course would produce an inaccurate result, since the rentals include a return on the investment as well as a sum to meet upkeep, taxes and the like. The appellants also sought by various deductions to have stricken from the amount included in the "rate base" some 80,000 square feet on the ground that the company could

get along with less, thus reducing the amount to about $225,000, a claim which the District Court temperately characterized as "most unfair" (Record, page 179a).

Giving effect to the claims that some of the space claimed by the appellee was not used, although finding that the building was prudently built for future needs, the Court assigned a total of 28 per cent. to appellee, arrived at as follows:

Cost of land	$410,000.00
Cost of building	2,542,615.00
Total	$2,952,615.00
28% of total	$846,732.20

The Court, however, took as the cost of the land the sum found by the Master to have been the *minimum* value as assessed by the tax authorities as of October 1, 1918 (Finding No. 65, Record, page 39a). He also omitted from his calculations the cost of the land and the portion of the building on lot 47, block 870, lying east of the principal plot.

It was not disputed that this is a part of the building, or that the actual cost of the land and building is as shown on Complainant's Exhibit 471 (Record, page 17,136). Upon the basis of actual cost adopted by the Court, the correct figures would be as follows:

Cost of land	$517,658.98
Cost of main building	2,545,375.18
Cost of easterly addition	56,600.10
Total cost	3,119,634.26
35.26% as per Ex. 496	1,099,983.04
28% as per Court	873,497.59
Amount taken by Court	846,732.20
Difference	$26,765.39

Thus it is seen that the Court reduced the amount claimed by appellee by about a quarter of a million dollars, and, by omission through inadvertence or excessive caution, and by taking assessed value instead of actual cost, reduced it $26,765.39 below the correct figure according to the theory adopted by the Court. Surely no criticism can be offered of a finding that reduces by more than 25% the figure representing the *actual cost* of the proportion of the building actually and reasonably occupied by the appellee.

4. Other Miscellaneous Parcels.

The Court deducted from the rate base as found by the Master, in addition to the items already discussed, the following amounts for parcels or portions of parcels of land actually in use by the complainant company:

Block 985, Lot 7	$100,000
Block 989, Lot 1	7,740
Block 1457, Lot 6	15,000
Block 3236, Lot 1	70,000
	$192,740

Block 985, Lot 7: This property, together with lots 19 and 20 of the same block, lies between

East 17th and East 18th Streets and Avenues B and C. (See Complainant's Exhibit 178, sheet 4, page 16,286.) This property is used by the Street Department for the storage of pipe and fittings. It also contains two storage buildings and two old gas holders (Record, page 256). Portions of the property were under lease up to 1913, since which time, the lease has been cancelled and all the property recovered for storage purposes (Record, page 7,884).

The only theory upon which the defendants seek to eliminate this property from the rate base is that equal storage space might be found somewhere else. Their witness, however, was unable to indicate any definite area on which to store the materials stored on this property, although admitting that storage space was necessary (Record, pages 11,979-84).

The Court found no reason to impeach the judgment of the officers of the company in retaining this place for storage purposes (Record, page 174a), but notwithstanding struck off $100,000 from the estimated value of this property as found in Finding No. 56 on the ground that one end of the property was partly occupied by two small holders not now in active use. This particular property was appraised by the City taxing authorities at $178,000 in 1918, so that the Court on the theory that the westerly half of the property was occupied by these holders, struck out 56% of this value, saying that the westerly half must be the more valuable (Opinion of Hand, D. J.; page 174a).

But the Court was in error in assuming that these holders occupied half the property. This property has a frontage of 300 feet on 17th Street and the two holders in question occupied a space

about 90 feet in width (Testimony of Mr. Alrich, Record, page 853). Thus the holders occupied less than one-third of this lot and even upon the theory adopted by the Court of striking out the entire portion of the lot occupied by the holders, he should have stricken out not to exceed 1/3 the value of the property or $59,000.

We believe, however, that the Court unwarrantedly took this point against the company and that the company is entitled to include in the rate base in this case, as in its former case, this piece of property for many years actually used by it in its gas business.

Not satisfied with the action of the Court in striking out at least $45,000 more than he should have on this plot, the appellant Attorney-General insists that the entire plot, including lots 19 and 20, should go out (Attorney-General's Brief, page 190). The testimony of the witness Alrich referred to by the appellant shows that the two small lots (shown on sheet 4 of Complainant's Exhibit 178) while formerly leased to a coal and lumber company were reclaimed in 1913 on account of the necessity of using them for storage, and that at the time of the trial they were actually and necessarily used for the storage of materials. The necessity of storage space is not questioned by the witness for the appellant and he has been unable to specify any point at which any full amount of space might be available for the same purpose (Record, page 11,977).

As to the two holders upon the west end of the property, which the Attorney-General solemnly asserts (Brief, page 191) should not have been included in the rate base, the evidence is clear that they were withdrawn from service and written off the books during the trial, and so were not in-

cluded by the complainant, the Master, or the Court, in the sum upon which the complainant claimed the right to earn a return.

Block 989, Lot 1: The Court deducted $7,740 on the assumption that a part of this property was used for the service of the New Amsterdam Gas Company holder located upon this property. There is evidence in the record that the governor house and other facilities upon this piece of property are actually used in part for the Consolidated and in part for the New Amsterdam Company. But the Court deducted this amount from the total value of land unimproved as found by the tax assessors; and the value of this piece, which was acquired in 1918, is not shown in the Master's Finding No. 65 (page 39a), the tax authorities not having assessed it against the Consolidated Gas Company in 1918. Therefore the District Court, for consistency even in resolving all doubts against the appellee, should have added two-thirds of the value of this parcel to the total of land value, instead of deducting one-third. He should have added $15,480 instead of deducting $7,740.

Block 1457, Lot 6: The Court deducted $15,000 upon the claim of the appellants that a small corner of this property is no longer used by the gas company. Block 1457, Lot 6, is occupied by a large gas holder and governor house. The shape of this plot is shown upon Complainant's Exhibit 178, sheet 9 (Record, page 16,286). The property was acquired in this form in 1884 from the predecessor company and has always been used in connection with the holder station located upon this block. The witness for the appellants admitted that the holder fills the square part of the

property but claimed that the small item of 50 feet to the west is not needed (Record, page 12,009).

This item is comparatively insignificant but is illustrative of the method by which the defendants sought, by every means, to whittle off and pare down the property allowed as used and useful by the company. In determining what property is used and useful in the gas business, the judgment of the trustees of the company is entitled to great weight and should not be disregarded or overruled to the extent of lopping fragments of property which may temporarily be not actually occupied with gas structures, but which in the judgment of the trustees will from time to time be needed and used and, hence, should not be disposed of, but kept available. The difficulty which the complainant would experience in acquiring land adjoining the lots used by it would itself justify investment in anticipation of use.

Block 3236, Lot 1: This is a large plot of property, shown upon sheet 18 of Exhibit 178, and occupied by a large gas holder, governor house and other accessories (Record, page 226). The value of the land was appraised by the tax assessors at $200,000 (Master's Finding No. 65, page 40a). The Court struck out a little more than one-third of this value, $70,000, upon the objection of the appellants that a portion of the property was susceptible of residential development and was not used by the gas company.

Inspection of the photographs of this property introduced as Defendants' Exhibits AA193, 194 and 195 immediately following page 18,156 in volume 20 of the record, will end the claim of the appellants that any part of this property could be sold for a non-gas use. The second photograph illustrates the portion of the property which the

appellants would have the gas company sell for the purpose of erecting apartment houses and stores. The third photograph shows the property from the opposite direction and illustrates the rocky and steep nature of most of the land not actually occupied by the gas holders and governor house. This property was acquired in March, 1910, and it has been continuously used as a holder station since the completion of the holder in 1912 (Record, page 7,888). The necessity of a holder at this point to supply pressure in the northern part of Manhattan Island, which was then rapidly growing, is undisputed (Record, page 8359). On account of difficulty with property owners and objection to the presence of the gas holder, the gas company was compelled to abandon plans for the construction of the holder in the site first selected and to accept the property in question. While the site was larger than needed, the owner thereof would not divide it claiming that the damage done to what would be left would be equal to its value. The company was thus obliged to take the entire site and there is no question made of its discretion in so doing (Record, page 8,358).

The appellants claimed upon the trial that a large part of the property was not used or useful for gas purposes, and put in a great deal of evidence tending to show how the property could be divided into building lots and apartment houses erected thereon. The company has advised its real estate agents that it is in readiness to receive offers for the purchase of portions of this property not physically occupied by the company but no offer has yet been forthcoming even for uses which the company could not consider in close proximity to its holder (Record, page 14,538).

In excluding one-third of the value of this property, we believe that the Court has gone far beyond any claim that the defendants could rightfully enforce.

Block 932, Lots 29 and 30: These two small lots are shown upon sheet 5 of Exhibit 178. Lot 29 is used for the storage of coal and lot 30 is occupied by a machine shop now used for storage purposes (Record, pages 270, 845, 847). Appellants did not question that lot 29 was actually used for the storage of coal (Record, page 12,006) or that lot 30 had upon it a building which was available for storage purposes. Their claim that the value of these lots should be excluded from the rate base is based solely upon the unsupported opinion of one witness that in his opinion the property was not needed for gas purposes.

This property constitutes an integral part of the 21st Street water gas plant and there is no possibly valid reason for upsetting the discretion of the officers of the appellee in retaining this property in active use.

Block 1157, Lot 1: This property is shown upon sheet 10 of Exhibit 178 and constitutes a holder station. At the present time there are two large holders and accompanying governor house, boiler house and other accessories upon this property (Record, page 283). On the easterly end of this property there were until 1917 six smaller gas holders. These have been removed and the property made available for use for larger storage holders. Whether the holders are placed at this point or at another, the property will be used either for a holder station or for warehouses and storage necessary in that vicinity (Record, pages 8,022-3).

The appellants do not attempt to say that the property was not actually occupied by holders during all of the period up to 1917, although their witness made some effort to express the opinion that the holders were not necessary during that period. As to the present time, for the reason that the property is not actually occupied, it is claimed that it should be wholly excluded from the rate base as to the 300 easterly feet of the property formerly occupied by the holders. This claim entirely ignores the fact that a large portion of the said 300 feet is occupied by underground piping and mains in connection with the holders still actually in use on the property and admittedly a part of the necessary useful property (Record, page 11,585).

It has never been held that a utility corporation might not properly hold unused land for a short period of time when its use in the business was contemplated in the near future, and the judgment of the trustees of the appellee in this case in retaining this valuable property for unquestioned immediate future use should not be superseded by a mere guess of an inexperienced young man, who admitted upon the stand that he had had no experience or knowledge of the correct amount of holder space necessary for a gas company such as that of the appellee (Record, pages 11,987, 12,013).

Blocks 1683, 1704 and 1712: These items of property are shown upon sheets 12 and 13 of Exhibit 178. The appellants seek to have eliminated from the rate base the easterly 281 feet of block 1704, lot 5, and all of lot 18, block 1683, and lot 2, block 1712 (Brief of Attorney-General, page 193).

The District Court declined to recognize the appellants' claim as to this property (Record, page 175a).

The testimony of appellee showed in full detail the uses of this property. Lot 18, block 1683, is used for storage of heavy cast iron and wrought iron pipe and fittings and is occupied by two buildings; portions of it are used for a school of instruction in the department of mains and services (Record, pages 289-290).

All of lot 5, block 1704 is used, being occupied by buildings for storage purposes, a garage and by a reserve coal pile, which at times has occupied a very large portion of the block (Record, page 609). Not only have the trustees of the company in the exercise of their judgment retained this property for use, but the evidence distinctly shows that it has been devoted continuously to gas uses for many years. There is no evidence justifying the exclusion of 281 feet or any other portion of this property, and the unsupported guess of the appellants' witness is entitled to no weight against the judgment of the trustees and the actual proved facts.

Block 1712 is directly across the street from block 1704 on the water front and is absolutely essential to the use of the property for the reason that it gives access to the water. This was recognized by Judge Hand in the District Court and should be conclusive without further argument (Record, page 175a).

The contention of the Attorney-General (page 194) with respect to this property is illustrative of the methods resorted to by the defendants in order to tear down and whittle away, piece by piece, the valuable gas property of the appellee. He suggests that the storage space on block 1704 might be done away with and the same material stored on block 1682, lots 8 and 11 in the *four corners thereof not occupied by the circular holder! It* would seem more consistent to permit block 1704

to be used as formerly for storage space, and to insist upon the leasing or sale of the four square corners outside the round holder. Such a claim refutes itself.

Inclusion of the Astoria Property

The Master included in his rate base the Astoria property as of October 31, 1918, in the sum of $17,169,342.57 (Finding No. 64, Record, pages 38a and 39a). The District Court included the Astoria plant as of October 1, 1919, at $15,497,615 representing fixed capital only (Record, page 181a). The reason for the difference between these figures is that the Master, in addition to taking actual fixed capital, added a sum covering working capital as testified by the defendants' witness Sangster (page 11,738), whereas the District Court, in addition to allowing only the inadequate sum of $2,000,000 working capital upon Consolidated property, omitted wholly to allow any working capital for the Astoria property included in the rate base.

In addition to the foregoing, the Special Master included one-half of the additional plant in process of erection at Astoria, or $2,250,000, while the Court, omitting the coal gas plants of the Consolidated Gas Company at 14th Street and 42nd Street, took in the entire cost of the new unit at Astoria, or $4,500,000.

The defendants now claim that both of these actions constituted reversible error (Attorney-General's Brief, pages 195-197). The reasons given are (1) the company did not ask to have it included in the rate base, and (2) the cost of the property was not proven.

The appellee having presented its case in accordance with the facts recorded in its books of

account, and having included in its expenses the amount paid the Astoria Company for gas including a return upon the investment of the Astoria Company, it could not consistently include the Astoria plant as a part of the used and useful property upon which a return should be computed and added to such expenses in determining the rate. Likewise the appellee's expenses included a part of the cost of maintaining the Astoria tunnel, *including a return on the investment therein*, and, therefore, no part of the tunnel was included in the used and useful property upon which a return should be computed and added to appellee's expenses. The Master and the Court chose to exclude from appellee's expenses any return upon the Astoria plant or tunnel, and to include in the used and useful property the Astoria plant and that portion of the tunnel which it was estimated was devoted to appellee's business. Nevertheless, appellant Newton disingenuously claims (Brief, pages 197-8) that the Astoria plant should be excluded from the rate base because, forsooth "respondent did not claim it as a part of the used and useful property." Accepting as he does the Court's exclusion of any return on the investment in the Astoria plant from the appellee's expenses, which he tries to still further whittle down by every conceivable device, appellant Newton takes advantage of appellee's consistent avoidance of a double inclusion of a return upon this investment, to demand its exclusion altogether, notwithstanding the evidence that the capacity of this plant together with that of appellee's own manufacturing plants, including the 14th and 42nd Street plants, gave appellee a total capacity substantially less than was required to meet the maximum day's demand of its consumers (see page 220, *et seq., ante*).

Appellant Newton likewise demands the exclu-

sion of the Astoria tunnel from the rate base (Brief, page 198), stating (page 199): "Just why the Court should allow anything in the rate base for this tunnel, which is owned by another company, is not clear. All that respondent claims in its operating expenses for this tunnel is $379,190.73 (Record, pages 11,776, 3,275-76). No allowance should be made for it in the rate base." This statement, in view of the familiarity of the writer thereof with the facts above stated, might be passed over on the ground of sheer stupidity. We venture the opinion, however, that it is nothing of the sort, but that it is only one of a great many attempts on the part of the appellants to mislead the Court and befog the issues involved in this case. Appellant Newton knows very well that the method of procedure adopted by the Court effected the elimination from appellee's expenses of any return upon the investment in the Astoria tunnel (which, as explained (pages 343-4, *post),* was absolutely indispensable to the conduct of appellee's business, as well as that of other companies operating in the Borough of Manhattan) and substituted therefor the inclusion of the tunnel, to the extent that it was used by appellee in the rate base.

In this connection the appellant Newton states "Respondent claims an investment in this tunnel of only $2,975,114.08, while the Master allows as against this figure $5,178,614.58. This is on the basis of 57.45 per cent. used by the respondent and 42.55 per cent. used by the other companies (Record, page 13,064; folio 39,190). The page and folios referred to contain no allusion to this matter.

Appellee *claimed no investment in the tunnel whatever.* It actually paid for the use of a portion of the tunnel and of the Ravenswood tunnel

and of the connecting mains in the Boroughs of Manhattan, the Bronx and Queens (by means of which the sources of gas supply in the three boroughs were tied in, as an insurance against interruption of service, as well as a means of transfer of gas from Astoria to the Boroughs of Manhattan and the Bronx) an amount representing the cost of maintaining these joint facilities including a return upon the investment therein. The Master and the Court saw fit to eliminate all return on investment from appellee's expenses. The Master followed the plan of substituting half of the investment in a new Astoria water-gas unit, in process of construction, estimated to cost $4,500,000, and having a capacity of 30,000,000 cubic feet, in lieu of the capacity the New York Mutual Company's Manhattan plant, which appellee was using and for the use of which it was paying, such payment being excluded by the Master and the Court from appellee's expenses and, having thus theoretically transferred a substantial source of appellee's supply of gas from the Borough of Manhattan to Astoria, the Master deemed it proper to include in the rate base of the appellee the entire cost of the Astoria tunnel, leaving out of consideration entirely the cost of the Ravenswood tunnel and the connecting mains, representing an investment of nearly $2,000,000. The Court, on the other hand, based its conclusion upon the evidence of the joint use of these facilities and apportioned to appellee the percentage shown by the evidence to be used by appllee and in addition thereto a percentage rep-

rsenting a thoretically greater use of the Astoria plant, by reason of the Court's exclusion from appellee's investment of the 14th and 42nd Streets plants. The figures thus reached by the Court $4,400,000 (Record, page 179a) is less, however, than it should have been, since it disregarded the fact that the Master had already excluded from his rate base a portion of the plant of the New York Mutual Gas Light Company which had been devoted to the requirements of appellee.

As to the point that the investment in the Astoria property was not proven upon the trial, the record is full of exhibits and testimony *offered by the defendants themselves*, showing in the greatest detail the investment in the property and various aspects thereof brought out by analyses prepared by the defendants' expert. In this connection see the report of the defendants' witness Sangster, record pages 11,690, 16,761; also the Astoria books placed in evidence by defendants (Record, page 11,297).

Upon rebuttal the appellee offered in evidence the Order and Opinion of the Public Service Commission for the First District, showing that the Commission's engineers had at the time of the purchase of the capital stock of the Astoria Company by the Consolidated Company checked the vouchers, verified the doing of the work and the propriety of the expenditures and testified to the outlay as a proper capital expenditure (Exhibits 410-411; Record, pages 17,065-69).

The Commission in passing upon the propriety of the capital issues of the Astoria Company and their acquisition by the Consolidated Company said:

> "The Commission's engineers were asked to investigate the expenditures, and have investigated and checked some 70%, taken

at random, the selection having been made without any suggestion from the company's officials, or those vouchers containing the essential items, and a close inspection made.

"As a result it was testified that each item was found to be a reasonable charge for the property services or labor received or performed.

"Each item is required for the present or immediate supply of gas.

"Each item is a distinct addition or betterment to the property of the company, and not a renewal, repair or maintenance charge" (Exhibit 411, Record, page 17,070).

The figure of $15,497,615.53 used by the Court as the fixed capital of the company as of October, 1919, was derived from the testimony of Mr. Robert A. Carter, an officer of the Astoria Company and of the Consolidated Gas Company, who was called as a witness for the defendants and who testified that the amount of fixed capital approved by the Public Service Commission in 1915 had been increased up to October, 1919, by additions to the amount above stated (Record, page 11,488). The foregoing appears to dispose of any contention that the figures taken by the Master and by the Court were not in the record; they were offered and proved by the defendants themselves.

The propriety of including these properties in the "rate base" is closely interwoven with the question of the reserve plant capacity and the exclusion of the 14th Street and 42nd Street plants, already discussed on page 319 *et seq., ante.* While the appellee tried its case upon the theory that only the property actually owned by it should be in the rate base and that the Astoria expenses and a return upon the Astoria Company's investment should be taken care of in the operating expenses, nevertheless as pointed out on pages 41 to 48, *ante,*

a computation may be prepared by taking, as a part of the property upon which a return is to be computed, the Astoria property necessary for the manufacture of gas to be supplied to the appellee's customers.

For the actual proof of the cost of the additional unit under construction, the entire direct and cross-examination of Mr. Addicks should be read instead of the incomplete fragments quoted in the brief of the appellant Attorney-General on page 196. If the direct examination of Mr. Addicks, where he testified that ground had already been broken for a new thirty million cubic foot capacity water gas plant, the cost to be $4,500,000 (Record, page14,330) be not sufficient, it finds complete confirmation in the helpful cross-examination on the same subject found on page 14,372.

The East River and Ravenswood Tunnels

The same considerations apply to the tunnel property, the cost of which was proved in the same manner. It not being feasible to erect additional gas plants upon Manhattan Island, and it being conceded that the erection of plants at Ravenswood and Astoria was necessary and prudently undertaken, obviously gas could not be transmitted to Manhattan and The Bronx without proper conduits and tunnels to carry it beneath the waters of the East River.

Based upon relative requirements of the Consolidated Company and its affiliated companies, the Consolidated Company actually assumed 57% of the cost of maintenance of these tunnels. The Court, however, thought it better, instead of taking a fraction of the Ravenswood tunnel and a fraction of the Astoria tunnel, to treat the entire

tunnel system as a whole and allocate a just portion of it to the use of the complainant. For the reason that he had eliminated 14th and 42nd Street plants, thus leaving only the two water gas plants at 21st and 99th Streets to supply gas for the appellee in Manhattan; and requiring the appellee, therefore, to get the major portion of its gas from the Astoria side, the Court included 65% of the total value of the jointly used tunnels and conduits or $4,400,000 (Record, page 179a). The allocation adopted by the companies is amply sustained by the testimony of George E. Woods (Record, page 5,127), and the slight addition thereto made by the Court on account of the elimination of 14th and 42nd Streets plants leaves the Court's figure a very conservative estimate of the use to be made of the tunnels by the Consolidated Company.

POINT XIII

THE FINDING OF THE SPECIAL MASTER AND THE DISTRICT COURT THAT THE "PRESENT VALUE" OF THE APPELLEE'S PROPERTY IN 1919 WAS "AT LEAST AS MUCH" AS THE COST OF CONSTRUCTING OR ACQUIRING THE SAME, IN THE YEARS FROM 1884 TO 1919, WAS ABUNDANTLY JUSTIFIED BY THE EVIDENCE, AND AFFORDS THE APPELLANTS NO GROUNDS FOR CLAIM OF ERROR.

In order to prove the 80-cent rate confiscatory, it was unnecessary for the appellee to consume the great amount of time required for the establishing of the *full* value of its vast property, through an inventory, appraisal, opinion, testimony, etc. If the complainant had *any property at all,* in 1919, 1920, or thereafter, the rate was

confiscatory, because it yielded less than bare operating expenses. In 1918, even under the most rigorous assumptions against the company, the 80-cent rate yielded a fair return on only a small fraction of the indisputable value of the property used in serving the complainant's consumers.

Counsel for the complainant repeatedly stated upon the trial that, owing to the absolute necessity for saving time, he would refrain from offering detailed proof of full "present value" of the complainant's property, but would rest upon proofs that certain elements of such property were worth *at least* a sum which could be more expeditiously proved (See Record, pages 1160, 2039, 2041, etc.). Counsel for the complainant stated that this course was followed without prejudice to the company's right and intention, before any tribunal vested with rate-fixing powers, to prove the *full* value of *all* its property.

In support of this plan of proving, for the purposes of this case, *minimum* rather than *maximum* values for its property, the complainant offered certain testimony on its direct case and also certain testimony in rebuttal. As a result, there is available in the present record concrete and comprehensive proof along several lines:

> (1) The properties and values found in the prior suit (157 Fed. 849; 212 U. S. 19), less withdrawals therefrom since 1906, plus net additions since that time, with detailed proofs that such properties are now worth at least as much as, and in fact substantially more than, in 1906 or subsequent dates of installation. The results reached by this method are shown in Exhibit 498, reprinted at page 270a, *ante*, and are discussed under Point IX, especially at page 274 *et seq., ante.*

establish the extreme conservatism of the findings of the present Master and Court.

(2) The detailed inventories and appraisals of the properties in 1906, by the testimony under oath of the witnesses, since deceased, who made the appraisals in the former suit and testified to them. With this was coupled proof that unit prices of labor and materials in 1919 were substantially higher than the unit prices used in 1906. The results reached by this method are shown in Exhibit 497, reprinted on page 263, *ante*, and confirm the conservatism of the findings of the present Master and Court.

(3) As to land unimproved, the complainant called to the stand, *as its own witnesses*, the expert real estate appraisers who, as officials of the City of New York, fix the values of real property for purposes of taxation (Record, pages 2165, 2369, etc.). The qualifications of these men were unquestioned, and were indeed confirmed by the appellants, who called many of the same witnesses to prove the value of appellee's land in other years (Record, pages 10,091, 10,126, 9769, etc.). These public officers, chosen by competitive examinations under the civil service, are required by law to make sworn annual reports of the sum, for which, in their opinion, each parcel of land would sell, under ordinary circumstances, if wholly unimproved (City Charter, sec. 889; Exhibit 208, page 16,365). This statutory standard of official duty in the ascertainment of real estate

values corresponds closely to the formula laid down by this Court in the *Minnesota Rate Case* (230 U. S. 352). The New York law also explicitly requires such tax officials to assess all land at full value. Without undertaking to say that the market value of its land was no more than these assessed values, the complainant took the position (Record, pages 1160, 2039, 2041, etc.) that it was entitled, as to its land, to earn a return upon *at least* the sum on which the public authorities required it to pay taxes. If this value of land was good for *tax* purposes, the defendant public authorities should not be permitted to claim it too high for *rate* purposes. Adhering to his acceptance of the view, urged by the defendants, that "present value," even of land, must be measured only by original *cost*, the Master found that the value of the appellee's land unimproved was *at least* such original cost, but also found that such land would sell for at least the values testified to by the Tax Commissioners (Finding No. 65; Record, page 39a).

(4) After the appellants, on their case, had offered in evidence an "adjusted" book cost, in which a substantial part of the whittling down was due to an utterly unwarranted use of figures partly "*figured out of the air*" (Record, page 13,933) and partly from a vindictive report made by a minority of one member of a State Senate Committee in 1886 (Exhibit AA46; Record, page 17,706), discussed in detail under Point XVII, on page 471 *et seq.*, *post*, the appellee offered in rebuttal detailed and un-

deniably accurate statements of its investment in gas properties from 1884 to 1920 (Exhibit 398; Record, page 16,898; Exhibits 471, 472, 473, 474, 475, 496; Record, pages 17,136 to 17,444). As to property acquired in 1884, the actual cost thereof to the complainant was confirmed by the inventory and appraisal thereof at that time and by the majority report of the Senate Committee.

(5) As bearing on the correctness of the *actual* figures of investment, proof was offered as to the recognized or standardized approximate unit amount of investment required in plant, property, etc., to produce and distribute gas in and near New York City; this was found to exceed $1.00 per thousand cubic feet of gas sold (Finding No. 70), as is shown in full detail under Point XIV, *post*.

The Special Master declined to give any adherence to the "present reproduction cost" formula or criterion of "present value." He believed that a gas corporation should be allowed a fair return upon the actual investment in the property used in serving its patrons, and neither more nor less, and made a virile and well-reasoned argument for the adoption of that standard (Opinion, Record, pages 63a, 64a).

Having determined to fix the actual investment as the "rate base," the Master examined the proofs submitted under (4) above and found an aggregate investment, including working capital, of $74,854,351.14 (Finding No. 70; page 41a), of which the details were shown in Findings Nos. 63, 64, 65, 66, 67, 68, and 69. This figure he found

confirmed by the common experience of gas engineers and executives as to the required unit investment, per thousand cubic feet of the product, in the gas industry in New York City and elsewhere, as shown under Point XIV, *post*.

The "rate base" thus adopted by the Special Master must be regarded as extremely conservative and unfavorable to the appellee, in view of the *undisputed* testimony that the "present reproduction cost" of the property would be *nearly twice the original cost figure above stated* (See Record, pages 7621, 7697, etc.).

Nevertheless, the District Court drastically reduced still further the figures found by the Special Master. The District Judge realized that "original cost" was not "present value," but recognized also that the defendants had no grounds for complaint if he found that the "present value" was *at least* the sum established as the "original cost." So he did this, except as to land, for which he took the assessed values proved as stated under (3) above; but he also proceeded to cut and eliminate the appellee's property to a *minimum* which could be justified only on the theory that he wished to demonstrate how unmistakably the statute was confiscatory. Under Point XII, *ante*, we have shown how rigorous and unwarranted were these eliminations. Surely there can be no just criticism *from the appellants* of a "rate base" which not only excludes many thousands of dollars representing property admittedly in actual use, but is based upon cost in previous years before the present high levels, and represents not more than half the present values, tested by any accepted method of ascertaining it. Judge Hand said, upon this point (Record, page 181a):

> "It is more than probable that the plaintiff's whole investment is therefore properly valued at one hundred and fifteen millions at present prices, or *twice what I have valued it at.* But I go along with the Master, since the result is in any case the same, in adopting the piece-meal method of valuation. That might be improper if a rate were to be fixed."

1. According to the rulings of this Court, appellee is entitled to have its rate such as to earn an adequate return upon the "present value" of its property; that "present value" is not identic with, or measured by, the "original cost," although the Court and Master correctly found that the "present value" substantially exceeded the "original cost" of the property.

We shall not undertake to argue at length in this brief the long-mooted question of the *criteria* or standards for the ascertainment of present value, which has so often been ably presented to this Court. We seek at this point only to record one view that in any proceeding where rates are to be fixed, "present value" is the "rate base," *not* "original cost," and that "present value" means, as this Court said in the prior suit (212 U. S. 19), the value at the time the property is being used in the public service, and does not mean cost thirty years ago, or in 1914, or *averaged* costs before 1917 or during the years which have followed 1917. In this connection, we may very briefly refer to several very recent decisions.

The Supreme Court of New Jersey, in an opinion prepared by Mr. Justice Swayze, filed August 7, 1920, in the case of *Elizabethtown Gaslight*

Company vs. Board of Public Utility Commissioners (111 Atl. 729) held strongly that values computed on a pre-war cost basis, either by averages or a single year, did not reflect "present value" and that, in the new price level which has followed the War, unit prices and values as of the present must be taken in rate cases. *Lincoln Gas Co. vs. Lincoln* (250 U. S. 256, 39 Sup. Ct. 454, 63 L. Ed. 968) was cited in support of this conclusion. The learned New Jersey Court said:

> "To what extent the increase in prices may be due to an inflation of the currency or to any particular cause we do not know. What we do know is that the dollar of 1919 and the dollar of 1920 is worth less than the dollar of 1916 and still less compared with the dollar of the average year from 1911 to 1916."

In *Kansas City Southern Railway vs. Interstate Commerce Commission* (252 U. S. 339), decided on March 8, 1921, this Court ruled that, under the Railroad Valuation Act, "present value" must be considered, not merely original cost, and that, as to land, the cost of acquisition and severance damages must also be included as elements of value.

The law of the appellee's jurisdiction recognizes the constitutional right of one of its gas corporations to have its property valued "*as of the time when the inquiry is being made regarding the reasonableness of the rates fixed by the statute,*" and that, in a suit in equity to test the constitutionality of a rate statute, "the corporation should be given the benefit of any increase in the value of

the property since it was acquired. *Municipal Gas Company of Albany vs. Public Service Commission*, 113 Misc. 748, 751.

In the recent case of *Joplin & Pittsburg Ry. Co. vs. Public Service Commission of Missouri* (267 Fed. 584) (three Judges, Stone, Circuit Judge, and Wade and Van Valkenburgh, District Judges, sitting), it was said:

> "It appears upon the face of the report (of the commission) that great, if not undue, emphasis was laid upon the original cost of the property * * * at a period greatly antedating that with which this investigation must deal; nor can we say that the present period of high prices is so temporary or abnormal that it may practically be disregarded in arriving at the value of complainant's properties. No one can say what degree of depression may ultimately come, but it is reasonably certain that the cost of the properties now under consideration will never again approximate figures prevailing in the years before the World War."

This expression of opinion was based upon what was said by this Court in *Lincoln Gas Co. vs. Lincoln*, 250 U. S. 256, 39 Sup. Ct. 454, 63 L. Ed. 968:

> "The Court notices judicially that, principally owing to the war, costs of labor and supplies have advanced greatly since the ordinance was adopted, and largely since the case was last heard in the court below, and that annual returns upon capital and enterprise the world over have materially increased so that what would have been a proper return for capital in gas plants and other public utilities a few years ago furnishes no safe criterion for the present or the future."

In the very recent case of *St. Joseph Ry. Light, Heat & Power Co. vs. Public Service Commission of Missouri*, in the Western District of Missouri, 268 Fed. 267, Judge Van Valkenburgh said:

> "The Commission took the original cost when obtainable, and when not obtainable, average prices for a fixed period of five years before war prices prevailed, going back approximately to the year 1910. It also allowed cost price for additions and betterments made since present prices have prevailed, but it appears that no improvements or betterments of consequence have been made since that time. * * * *It is my judgment that the great weight of authority is against the adoption of a standard of original cost as a controlling basis for determining present value. The present fair value is the object to be attained. Nor do I think it permissible substantially to restrict the inquiry to a period antedating present cost prices.* * * * It follows that the method of valuation adopted by the commission in the case at bar was wrong." (Italics ours).

See, also, *Landon vs. Court of Industrial Relations*, 269 Fed. 433, 451.

2. The Special Master and the District Court correctly rejected the defendants' fantastic efforts to make deductions and eliminations from the appellee's actual investment in gas property.

On page 230 of the Attorney-General's brief, there is a statement of what the appellants say they claim to be the fair value of the appellee's property from 1906 to 1918:

> (a) "Founded upon" what the defendants represent to be the cost.

(b) "Founded upon" assessed values of land unimproved and the purported actual cost of other tangible property.

Statement (a) claims that the property owned by the appellee cost, in 1906, $22,002,363, and in 1918, $28,586,555, and that the value of the property owned by the appellee based upon assessed values and actual cost, was in 1906 $25,534,524, and in 1918, $32,589,146. The basis upon which these computations are made will be discussed later herein.

The Master's finding of $38,675,393.99 (Finding No. 63), for investment in property owned by the appellee "other than particularly specified (to wit, "Franchises and Rights," Astoria property, and Astoria Tunnel), is attacked in the appellants' brief as being founded on Appellee's Exhibits 496, and it is contended that this exhibit did not purport to show the investment in the property, but rather the cost of the appellee's property up to December 31, 1918. The fact is that the figures set forth in Exhibit 496, being the cost of such property, do represent the appellee's investment in the property to which the Master refers.

The appellants also assert that the figure of $38,675,393.99, includes real estate at $10,647,062.94, and state that this amount is neither the value of the unimproved land, as found by the Master in Findings 64 to 66, nor the value of the unimproved land so found plus the cost or value of the buildings thereon. The appellants further assert that the Master, in drawing Findings 64 to 66 as to the value of the real estate, later proceeded to ignore the findings "by taking in their

place an amount for real estate which exceeds the assessed valuations of the land for 1919, by over $1,100,000."

These assertions are very far from the real facts, the appellants themselves having recognized that the amount of $10,647,062.94, in addition to the land, did include certain buildings and improvements which it has been the appellee's practice to carry in its real estate account.

The amount of $10,647,062.94, set up under real estate in Complainant's Exhibit 496 (Record, page 17,444), included in addition to *land* alone, the General Office building, the 57th Street Branch Office Building, the 66th Street Meter Shop and Street Department buildings, the 114th Street and 3rd Avenue Branch Office, and the 159th Street Shop building, which items, from Exhibit 471, total $3,127,203.

In addition to these items, there are also included in this sum of $10,647,062.94 the investment in a number of smaller buildings, such as the Hester Street Branch office and Street Department buildings, certain buildings at the 21st Street Station, the office building at 114th Street and Third Avenue, and certain buildings and structures at the 111th Street Station. The inclusion of all of these buildings, large and small, is clearly shown in Complainant's Exhibit 471 (page 17,136), but none of them are included in the assessed valuations of land alone and unimproved, set forth by the Master in Finding No. 65.

Hence, if the $10,647,062.94 found by the Master as the investment in real estate be reduced by $3,127,203.90, representing only the larger build-

ings above enumerated, there results $7,519,859.04 for the land alone, plus the items representing the smaller buildings.

Thus instead of the original cost, as accepted by the Master, being $1,100,000 in excess of the assessed valuations of land alone for 1919, as stated by the appellants in their brief, it is more than $2,000,000 less than such assessed value. If the Master had followed the evidence offered by the appellee as to the current value of unimproved land, the fair value in Finding No. 63 *would have been increased by over $2,000,000.*

It should be borne in mind that the Court below, in so far as it applied to the properties included in its "rate base" the amounts of investment respectively found by the Master, expressed the very emphatic view, fortified by the testimony of the defendants' principal witness (Mr. Little) that the investment is "*properly valued*" at *twice* the amount at which the Court allowed the same in its "rate base," but that to take the investment at so low a figure "might be improper if a rate were to be fixed" (Record, page 181a).

Another criticism made of Complainant's Exhibit 496, which the Master accepted as a basis for his findings, relates to the investment in manufacturing plants and holder stations. It is contended by the appellants that "the property which it contends to exist and structures which it contends to be owned by the company, having been condemned by the City authorities for public uses, remained in the capital accounts of the company for many years after they had ceased to be the property of the appellee," and several purported instances of

this sort are set out as alleged. The fact is, however, that Complainant's Exhibit 496 *did not include* the cost of any land or plant pertaining to either the 14th Street Station or the 44th Street Station, which had been "condemned by the city authorities, torn down, dismantled, or the ownership transferred to the city." Likewise, Exhibit 496 *excludes* the benches in the retort house at the 44th Street Station, and the purifier foundations at the 111th Street Station, which are referred to in the Attorney-General's brief (pages 351-352), nor did the appellants undertake during the trial before the Master to allege or point out that such items had been included in Appellee's Exhibit 496.

We have demonstrated (Point XVIII, pages 471 to 488, *post*) that the properties acquired by the appellee company in 1884 represented an investment by the predecessor companies in excess of the price paid therefor by the appellee. The appellants' claim as to the value of the appellee's property "founded upon cost" is based upon various tables which were put in evidence by Mr. Hine, Exhibits AA408 to Exhibit AA426 (pages 12,475-12,487), which last is called "*Adjusted* Book Costs, Less Depreciation of Fixed Capital." The cross examination of Mr. Hine upon these tables disclosed that what the witness called "book costs" was no such thing, but as to many items was the veriest "guess."

The table in appellants' brief purporting to show the "value" of the appellee's property "founded on assessed values of land and actual cost of other tangible and intangible property," is likewise based, as to property other than land, upon Hine's conjectural tables.

Mr. Hine, upon cross examination, admitted many errors, conjectures and inconsistencies in the makeup of his tables which destroyed their reliability as a basis for any finding by any Court. As to Defendants' Exhibit AA414 (Table 256), representing an "adjusted" book cost of its 14th Street Station as of January, 1906, placed in evidence through Mr. Hine, the latter testified that he excluded all the gas manufacturing plant and equipment at the 14th Street Station; that is, he adjusted the book cost "by drawing out" everything except the East 15th Street holder and tank valve house (S. M., pages 13,274-13,275), but, even as to the valve house which he attempted to include, he failed to include the followng expenditures: In 1888, $20,182.43 for exhauster house and connections, $10,537.38 for exhauster and connections, and in 1889 some further amounts (page 13,275). As to Table 256 of Appellants' Exhibit AA414, Mr. Hine admitted that his purported statement "would not be complete" in view of these omissions (page 13,276). While he added two per cent. to his adjusted book cost of the 14th Street Station for "possible omissions" in his estimate, he added no such percentage in his revision of the book cost of the other stations at 18th Street, 21st Street, 63rd Street, 111th Street and 44th Street (page 13,280).

Mr. Hine did a variety of weird and unreliable things. In making up Appellants' Exhibit AA415, Mr. Hine admitted that he relied upon the testimony of the deputy tax commissioner, the vague Neumann, as to the absence of improvements on that property in 1906, although Mr. Alrich had testified as to the improvements that

were actually on that property at that time (page 13,281). For Lot 17, Block 689, Mr. Hine took the assessed value of the improvements as testified to by the deputy tax appraiser, instead of taking the book cost (page 13,281). Instead of taking the debits to plant account as representing the book cost of the plant, the witness took the figure that was credited upon the withdrawal of some of the plant (page 13,284).

> "Q. Do I understand that you took your calculations of the book cost of property at these various stations and plants from testimony in the case and not from the books themselves, as to what property was in a given station, and how much had been spent for it?"
>
> "A. The book cost in certain cases. It was absolutely necessary because in those cases the books do not show what was there. (page 13,285).

He testified that he relied on the testimony of one of the witnesses as to the dates when property on lot 51, block 715, went out of use:

> "Q. Well, didn't you rely on it as to what property was there?"
>
> "A. Yes, to a very great extent."
>
> "Q. Well, completely?"
>
> "A. Well, not completely, no" (page 13,286).

In making up Appellants' Exhibit AA415, Table 257, of adjusted book cost at the 18th Street plant as of January 1, 1906, he did not include anything for the valve house and the boiler house except amounts which he took from the extraneous document, Senate Document No. 47 (pages 13,287-13,288). The items of actual outlay were shown in Schedule "B" (Exhibit 472), setting forth in

detail the cost of the appellee's manufacturing plant and holder stations from 1884 to 1918, which had been furnished to the appellants, but he nevertheless ignored or overlooked these actual outlays, shown by the books. Hine did not include the items for the valve house and the boiler house in his table (pages 13,288-13,290). He included no items of expenditure between 1884 and 1906, at the 18th Street Station (pages 13,290-91).

In Appellants' Exhibit AA417, Table 260, purporting to show adjusted book cost of the 63rd Street Station as of January 1, 1906, Mr. Hine stated that the Rowland Appraisal showed that in 1884, the 65th Street Station comprised "six small holders," valve house, boiler house, etc. (page 13,291). The Rowland Appraisal showed that there were "six tanks and four holders" (page 13,292).

In the adjustment of the book cost of the 111th Street Station as of 1906, shown on Table 262, Exhibit AA418, Hine excluded altogether block 1683, lot 18, upon which were located the mains, school, and the Street Department Headquarters, the brick storage building, the electrically operated derrick, etc., although he had no knowledge at that particular time of the use of the property or of the company's business (pages 13,294-5). He also excluded 250 feet of block 1704, on which were located the stable, the garage, the emergency wagon house, the wagon shed, the blacksmith shop, and coke handling apparatus (page 13,295).

In Exhibit AA419, Table 263 of adjusted book cost of the 44th Street Station, December 31, 1914, Hine included only one-half of the brick wall, although the wall existed there in its entirety, con-

tinuously from 1884 to the date of trial (pages 13,295-96). In the same table he did not undertake to give the book cost for the storage house on the property, but gave what he called "an assumed figure" (pages 13,297-8). He did not make any examination of the books of account relative to construction in connection with the 44th Street property subsequent to the taking of a part of the same by the city (page 13,299).

While assuming the "depreciation" of the property from book cost of fixed capital, he made no estimate of appreciation of the property (page 13,301), but carefully evaded the question of appreciation in the value of the 57th Street building because he said he had "no judgment on that particular building" (page 13,301). He therefore did not depreciate the building (page 13,302).

> "Q. Do you mean to say that the materials which have gone in the plant haven't a higher market value today than they did when they were acquired?"
>
> "A. Undoubtedly most materials have a a considerably higher cost today than when they were acquired" (Rec., page 13,302).
>
> "Q. Mr. Hine, will you please tell me your opinion on that point?
>
> "A. My rough judgment on that would be that the building, which 25 years ago cost $100,000 to erect would cost now, erected new, or a similar building erected new, under the conditions that exist today, from $185,000 to $200,000.
>
> "Q. Yes, nearly double?
>
> "A. Yes" (Record, page 13,306).

It would perhaps be wearying to enumerate all other defects or omissions of Mr. Hine in his other

tables and exhibits of "adjusted book costs." From Exhibit AA425, table 275, he omitted the 14th Street and 42nd Street Stations (page 13,352). In making his calculations in Exhibit AA415, table 257, adjusted book cost of the 18th Street plant, he derived his figures, not from the books of the company, but from Senate Document No. 47 (pages 13,356-7). For Exhibit AA241, table 67, he did not take book cost but applied entries in determining the cost of the property, he relied in other instances upon certain credits for withdrawals (page 13,359). The witness Hine showed no basis by which he identified certain withdrawal credits with the total debits for property in the fixed capital account (13,359-360).

Where Mr. Hine, who is not an accountant, reached a ready conclusion that the books did not show certain figures of cost of property, he rushed into figures arrived at in his own peculiar way; but most of the differences between his adjustments and the book costs were due to the fact that he excluded items of property (page 13,364).

In Defendants' Exhibit AA417, table 260, "adjusted book cost of the 63rd Street Station as of January 1, 1906," Mr. Hine's figures vary from the book cost of $220,000 approximately, and his exclusion of the property was due to the fact that certain items of property referred to in Senate Document No. 47 were not deemed by him to be sufficiently identified in the testimony of Mr. Alrich, a witness in behalf of the appellee (pages 13,365-66). Mr. Alrich in his testimony did mention one building and one holder, and therefore Mr. Hine concluded he left out all the apparatus, valves on the pipes, vaults, pressure gauges, valve stems, etc., etc., etc. (pages 13,367-8). In

table 261, which was part of table 260, Exhibit AA417, Hine omitted everything charged against the station with the exception of specified items (page 13,368). Although the property was not written off until some time in 1906 or 1907, Mr. Hine omitted it from his tables of property in existence on January 1, 1906 (pages 13,370-371).

In Exhibit AA418, table 262, adjusted book cost of 111th Street Station as of 1906, Mr. Hine omitted $267,072.17 (page 13,371).

In calculating the book cost for the 44th Street Station, but five items of the nineteen appearing on Mr. Hine's Exhibit AA419 were stated in sums appearing on the books. One of the items he estimated and the others he purported to derive from Senate Document No. 47 (pages 13,373-4). Hine never reconciled his figure with the books (pages 13,374-6).

Hine "depreciated" his "book cost" of the property upon a so-called "straight-line" basis, irrespective of the fact that portions of the plant were shown to have been completely reconstructed and made new (page 13,330). He testified (page 13,382):

> "I would say that the company, generally speaking, keeps its apparatus in very good repair."

Although a generating machine might be producing more gas than it did when bought new, he nevertheless "depreciated" it (page 13,387). Taking as an example his computation of accrued depreciation for the 21st Street Station, which he assumed already existed in 1884 (pages 13,393-94), the witness spent from ten to twenty minutes without being able to identify the parts of Sen-

ate Document No. 47, which he said he used in his computation (page 13,397). He testified that "I had to work from debits and credits; I could not work from just the balance, going ahead" (page 13,395), but when pressed as to where he found the debits and credits which he said he had to use, he answered, "I did not find the debits and credits in connection with this company, I see, by looking at my working sheets" * * * "It was done from those balances except from the fact of a few notes in Yalden's testimony, giving very little information, so that it was practically impossible to determine the age there, and that three years would be the minimum age. It was started in 1824."

> "Q. Practically impossible to determine the age where?
>
> "A. In the case of the 21st Street plant."

The confusion of his process of calculation was disclosed by the following testimony at pages 13,400 to 13,401:

> "Q. On the basis of this schedule of balances, which you said you used, pages 710 to 713 of Senate Document No. 47, being part of the Yalden report, what expired life would you get as of 1884, or the composite expired age?
>
> "A. You could not get the composite expired age on that.
>
> "Q. There is no way that you know of getting it?
>
> "A. Absolutely none, because you could not take account of the credits. If you worked just on balances you would get an age that is too large because you would get nothing on account of your credits.
>
> "Q. How did you compute it?

"A. I took those debits from 1824 on as shown by Yalden, with a revision during the period from 1874 to 1880 on account of a notation he makes with respect to some depreciation that was written off, and I assumed that the balance in 1880 was seven years old, that is, the accumulated balance, and with the additions up to 1884, 1880 to 1884, two years, and then figure back to three, which I would say is absolutely too low anyway, from the very nature of the case, and on all those plants the information was most meagre, and I have just taken a minimum amount."

Again at page 13,402, Hine testified:

"Q. What is there to indicate that this plant, with necessary renewals and replacements, will not go on for ninety years more, the plant that is there now?

"A. With that provision that you suggest, necessary renewals and replacements, I don't know any reason why there should not be a plant there forever, except that the value of the land might put it out. I should think there would be as long as there is a gas business.

"Q. They could not make gas unless they kept renewing and replacing, could they?

"A. Certainly not."

At pages 13,403-13,447, Mr. Hine's cross examination developed many other inconsistencies and defects in reasoning as well as the lack of basis for making computations which he was forced finally to predicate simply upon "*just my judgment*" (page 13,442).

In so far as the calculation of cost of property is founded upon the tables made up by Mr. Maltbie, his method was disclosed upon cross examination, beginning at page 13,851 of the Record, down

to page 13,942. His calculation was attempted to be made by the following method: As purported cost since 1884, he took, for land, the payments by the Consolidated Gas Company, but only to the extent that he "allowed" property as used and useful. Prior to 1884 for land, "with one or two exceptions" he took the cost from Senate Document No. 47, that is, the cost to the "constituent" companies, and where the figures did not appear in Senate Document No. 47, he relied upon the so-called Rowland Appraisal (pages 13,851-853). He was unable to reconcile his figures with the sources from which they were purported to be taken, and finally, in answer to one of the questions:

> "Q. Where did you get that figure from?"

he said (Record, page 13,933).

> "A. *Well, that is figured out of the air.*" (Italics ours.)

POINT XIV

THE ACTUAL AND THE REASONABLE INVESTMENT IN THE PROPERTY NECESSARILY USED IN THE MANUFACTURE, TRANSMISSION AND DISTRIBUTION OF THE QUANTITY OF GAS SOLD BY THE APPELLEE, IS AT LEAST FOUR DOLLARS PER THOUSAND CUBIC FEET.

In large production, there comes to be recognized an approximate standard or average quantity of plant and property required, per unit of product, and a standard or average of investment therein. In addition to ascertaining the appellee's actual property and investment, the Court in

this instance sought the confirmation of this comparison with the recognized unit of investment per unit of gas production.

The Master found (Finding No. 70) a required investment of at least $4.00 per thousand cubic feet of gas sold was conservative as to the appellee and other companies operating in this territory and the District Court reached a confirmatory conclusion. The value of the property, based on the present cost to reproduce it, would, as the District Court indicated, be substantially in excess of $7.00 per thousand cubic feet.

For all companies of the Consolidated system, aside from the complainant, the average investment was shown to be $4.74 per thousand sold. Including the complainant, the average was $4.32, and including the new Astoria unit, $4.46. For the complainant alone, the actual investment figure was $4.03 per thousand cubic feet of gas sold in 1919.

The minimum figure of $4.00 of investment per thousand cubic feet of gas sold is also lower than the investment figure repeatedly adjudicated for gas operations in this territory. As of 1913, the defendant Public Service Commission, upon the recommendation of Commissioner Maltbie (principal witness for the Attorney-General in this case), valued the manufacturing and distributing system of the Brooklyn Borough Gas Company (water-gas only) at $4.85 per thousand cubic feet sold. (See cross-examination of Maltbie; Record, page 13,814 *et seq.*) This value was after deducting—incorrectly, we think—a large sum for "accrued theoretical depreciation." The company's investment was found to be over $5 per thousand.

The reasonable cost to reproduce the plant and distributing system, *exclusive of land*, was found to exceed $4 per thousand, as of 1913 (4 P.S.C.R. [1st Dist. N. Y.] 338).

The same Commission, upon the recommendation of Commissioner Maltbie, valued the plant and properties of the Kings County Lighting Company system (water-gas only) at $4.25 per thousand sold. This valuation was made as of 1911, and the $4.25 was the figure resulting *after* "accrued theoretical depreciation" had been deducted (2 P. S. C. R. [1st Dist. N. Y.] 459; Record, page 13,814 *et seq.*)

The same Commission, upon the report of Commissioner Maltbie, as of 1911, valued the gas plant and gas properties of the Queensborough Gas and Electric Company at $4.85 per thousand sold, *after* deducting "accrued theoretical depreciation." The company's investment in gas plant and distributing system was found to be over $4 per thousand sold, and the cost to reproduce the gas properties of the company was found to exceed $4 per thousand, *exclusive of land* (2 P. S. C. R. [1st Dist. N. Y.] 544; Record, page 13,814 *et seq.*)

POINT XV

THE COURT BELOW RULED CORRECTLY THAT NO DEDUCTION SHOULD BE MADE FOR SO-CALLED "DEPRECIATION," IN ASCERTAINING THE SUM UPON WHICH THE RESPONDENT GAS COMPANY WAS ENTITLED TO EARN A FAIR RETURN.

The appellants contend that from the investment in property used in serving the appellee's consumers, deduction must be made for "accrued theoretical depreciation," and that the Special Master and the District Judge were in error in ruling that the "present value" of the appellee's property was at least as much as the investment therein, without deduction for "depreciation."

This Court has never defined "depreciation" or held that it should be deducted from the original cost of utility property in ascertaining investment or present value.

When this Court held, in 1909, that the margin of return allowed this appellee by the 80-cent rate was too nearly adequate to warrant its annulment without test, it made no such deduction in ascertaining the value of the property, and in nowise indicated that the revenues from the rate need be such as to provide for the "depreciation" which the appellants now insist should have been provided for and must be deducted.

The Special Master and District Court in the present suit, the Masters and District Judges in the other gas-rate cases tried in the Federal Courts, and the distinguished referee, Ex-Justice Albert H. Sewell, who heard for the State Courts the suit of the New York and Richmond Gas Company, have alike made no deduction of "depreciation."

Although this Court has not defined "depreciation" or deducted it from the *cost* of property for any purpose whatsoever, there are certain fair inferences from its holding that depreciation, *when it in fact exists*, must be deducted from *value new*, to ascertain the present value of property as it stands:

(1) This Court having ruled that depreciation, *if it exists*, is a quantity to be deducted from *present value new*, obviously depreciation cannot be deducted from original cost, because only like quantities may be deducted from one another. Depreciation being a diminution of *value* cannot be a diminution of *cost*. *Original* cost is not *present value new*. Cost is an invariable historical fact, which cannot be diminished.

(2) If "depreciation" is a decline in present market value, obviously it is not a quantity deductible from original cost. If "value for the purpose of rate regulation" is not the same as "market value," then a decrease in market value is not to be treated as a decrease in value for rate purposes, because the two quantities are of unlike denomination and cannot be deducted, one from the other.

(3) If "depreciation" is sought to be defined as decrease in "service value" or "use value," obviously these concepts are not *value* at all, but *utility*. Admittedly the appellee's plants and properties are maintained at one hundred per cent efficiency, but if they were not, *a decrease in utility could not be subtracted from value new*.

Appellants' Ideas of Depreciation and Its Measurement

Appellants' witness Bemis defined depreciation as follows (fol. 40753):

> "The loss of service life. The loss in life or serviceableness, or life in service of a part or all of the property."

This definition could not be correct because loss of life cannot be deducted from value new.

Appellants' witness Maltbie defined depreciation as follows (fol. 39841):

> "It is the decrease in worth or value due to all causes, such as wear and tear, decay, obsolescence and inadequacy."

He did not explain whether or not he distinguished "worth" from "value." If he intended that, by "worth" he referred to physical qualities, and that by "decrease of worth" he meant deterioration, that part of this definition is clear error, in a rate case, because physical quality cannot be deducted from value new, represented by an amount of money. Therefore we are concerned only with his definition of depreciation as "decrease in value."

But an author or writer may begin by a neatly rounded definition and blithely forget it the next minute. It is necessary to examine the witness' testimony to find what he really means. Mr. Maltbie said (fol. 39,951):

> "When you start out with anything there is a certain amount of service it will render, and it has value because it will render that service. Now, as time goes on the amount of remaining service which that thing will

> render decreases as you go along, and consequently the value of that commodity or article or plant, whatever it may be, decreases in value because the person who owns it has a shorter and shorter time to get service out of that plant, or anything."

We shall discuss concretely on pages 435 to 447 the illustrations used by this witness and their fallacy.

Appellants' witness Hine, who made the computations of alleged depreciation in the appellee's plant and equipment, defined depreciation as follows:

> "Loss in worth or value due to all the causes, such as decay, wear and tear, obsolescence, inadequacy, and so forth" (fol. 40,157).

By "value", he meant "value for the purpose of rate regulation", (fol. 40,166) which is apparently any amount which some one wishes "value" to be. He speaks of "*depreciated cost*" (fol. 40,169), a nonsensical juxtaposition of words. As to this, Judge Hand said, on the argument, to appellants' counsel:

> "You cannot go into depreciation and you cannot go into obsolescence and still keep the theory of cost, because if you do, this is a confusion of principle. • • • You are trying to eat your cake and have it; you are taking it with one hand and refusing to give with the other what the principle you invoke requires."

In making his estimate of depreciation, Hine did not consider the physical condition of the property (fols. 40,152, 40,129). He based his estimates wholly on the age of the property, although admitting that if he looked at two engines of dif-

ferent ages, he could not tell which was the older (fol. 40,290). To exhausters he attributed a life of from 15 to 25 years, but he never knew of an exhauster retired for age only (fol. 40,292). What he did, as a result of reading his whole testimony, was to assign a period of life to each plant unit, to ascertain its cost, as nearly as possible and then to assume, without explanation, that the depreciation is equivalent to such a proportion of the cost as the expired life bears to the estimated life.

Hine considered that the life of a unit began at the time any money was spent for it and, in this manner, he estimated that one of the plants was three years old and had depreciated accordingly, before it was even completed and had begun to operate (fol. 40,183). Other absurdities of his method are illustrated by quotations from his testimony on pages 361 to 365, *ante*.

As a result of Hine's treatment of depreciation, it is to be concluded that the meaning of the word, as he conceives it, is "that invisible, intangible and unponderable ichor of age, which permeates gas plants and justifies a deduction from the investment therein."

This Court, the Facts Found Below, and the Testimony on Which Error Is Asserted.

In the case at bar, the Master and District Court have found as a fact that utility plants and property do not wear out, deteriorate, or lose value because of the progress of time. The Master and the Court have found *as a fact* that no such depreciation or deterioration has in fact taken place as to the appellee's plants and properties.

These findings as to the actual physical condition of the appellee's properties are based upon *undisputed* testimony, and as to the lack of loss

in value are supported by a strong volume of the best qualified testimony to be found in the United States on such a subject (See citations to the Record on page 379, *post*).

Mr. A. S. Miller, vice-president of the Bartlett-Hayward Company, one of the most experienced construction engineers in the gas industry in the country, made a report of the results of his detailed examination into the condition of the appellee's plants and properties. He found them in a high state of repair and first-class operating condition. For the sum of $322,000, he was willing to take a contract to put the plants and property in substantially as good condition as when first erected or installed (Record, page 7620 *et seq.*).

The items and details of his estimate were set out in his report, and this testimony as to the actual condition and the sum required for the restoration to condition new, was *uncontradicted* (Record, page 69a).

Utter Lack of Qualifications of Defendants' Witnesses to Overturn Facts Found by the Master and District Court

Upon what testimony do the appellants ask this Court to overturn the *fact-findings* of the Court below? None of the appellants' witnesses took any account of the actual physical condition of the plants (fols. 40,152, 40,129):

The Witness Hine, in so far as his practical experience was concerned, had never risen above the grade of "cadet engineer." As we have seen (pages 363-365; 372-373, *ante*), he did not profess to have *personal knowledge* to sustain his *judgment and opinion* respecting the life expectancy of the various classes of plant and

equipment. His "life-tables" were mere guesswork or gathered from the conclusions of other persons as reckless regarding facts or as lacking in qualifications as was Hine himself. His *formula* was that of his partner Maltbie; beyond that he did not go and could not know.

The Witness Maltbie made no profession of being anything but an academician. He had never operated or managed any plant, property or project, or had experience in the administration of the financial affairs of any undertaking of any kind. His sole asset was his *formula* for computing a wholly theoretical depreciation based upon an absurd hypothesis of life expectancy. All he required was that some one should provide him with something which might be taken as the "historical" cost if *actual* cost was too high for his purposes—of the plant and equipment he was *hired to depreciate*, and then he would sit in his library and apply his *hypothetical formula*, sustaining it by comparing a gas-plant (which will operate for centuries) to a *wood-pile* disappearing under daily removals (See pages 415 to 427, *post*).

The Witness Bemis frankly admitted (Record, page 13,609) his utter lack of experience in the management and handling of analogous properties and projects. *He, too, had only a theory and a formula.*

In *Simpson vs. Sheppard* (230 U. S. 351), this Court, in discussing the bases of valuation in a rate case, said:

> *"The ascertainment of that value is not controlled by artificial rules. It is not a matter of formulas."*

Yet the appellants contend for a value ascertainable only by an artificial rule—a "theoretical yard-stick" or formula. The "depreciation" which they claim is not physical deterioration, nor is it visible, nor tangible, nor ponderable; but it is *purely theoretical* and "fanciful," as Judge Hand found. It existed only in the imagination of appellants' experts. Its existence was denied by the qualified witnesses, by the verdict of the jury in the *Nashville* case (see page 405 *et seq.*), by the findings of the District Court and the Circuit Court of Appeals in that case, by the Report of the Master in the *New York and Queens Gas Company case*, and by the decision of Judge Hand in this case.

The Circuit Court of Appeals for the Sixth Circuit, in the recent *Nashville* case, ruled, in effect, that the provision for "theoretical depreciation" which the railroad company proposed to make, and which was the kind of "depreciation" for which appellants contend, was unnecessary. The Court rejected it as neither a reasonable nor permissible charge against the earnings. The finding of the jury, like that of the Special Master and the District Court in the present case, was to the effect that the kind of "theoretical depreciation" for which the company proposed to provide did not in fact exist. This finding of fact was sustained by the Circuit Court of Appeals (see page 405, *post*).

A Consideration of Appellants' Theories of Depreciation

The principal reliance of the appellants, in their claim that "theoretical depreciation" has "accrued" in respect of the appellee's property

and should be deducted from the investment therein, is the opinion in the *Knoxville Water Company* case (212 U. S. 1), from which appellants quote the following (page 10):

> "The items composing the plant depreciate in value from year to year in a varying degree. Some pieces of property, like real estate for instance, depreciate not at all, and sometimes, on the other hand, appreciate in value. But the reservoirs, the mains, the service pipes, structures upon real estate, stand-pipes, pumps, boilers, meters, tools and appliances of every kind begin to depreciate with more or less rapidity from the moment of their first use."

Did the Court, in making those assertions, assume to take judicial knowledge of matters there stated to be facts, or were such assertions conclusions of the Court based upon evidence contained in the record? If those assertions were based on the record in the *Knoxville* case, and if the record there disclosed a plant which in fact depreciated in value from year to year, then the quoted words have no application to this record, because the evidence presented by this record is that the plants of the respondent have not depreciated in value (See pages 373-74, *ante;* 379-80, *post*).

If, however, it is to be assumed that the above-quoted assertions were made from the Court's judicial knowledge, then the Court, in that case, assumed to take judicial knowledge of a state of facts which is emphatically disproved by the affirmaitve evidence in this case and which was found to the contrary, in the case of a railroad, by the verdict of the jury in the *Nashville Railroad Company* case (page 405, *post*), which verdict was recently sustained upon review in the

Circuit Court of Appeals. In the *Nashville* case, the jury found that the value of a railroad does not decrease from year to year, on any schedule or formula of expiring life expectancy.

Age alone has no effect upon the units of a gas plant. They may wear out in the process of time if not repaired; they may rust out if provisions against rust are not made; or units may become obsolete in the course of time. But where repairs are made continuously, where the plant units are painted and otherwise preserved against the invasion of rust, and where small units are replaced from time to time, there is no depreciation of units which are not commonly replaced as repairs (See folio references on page 379) nor exhaustion of the plant itself by the continual replacement of its units. And in the case of obsolescence, which is the cause of 95 per cent. of all replacements in a gas plant, it cannot be assumed that the value of the retired unit has proceeded progressively and step by step with the progress of time, but on the contrary, the depreciation of such retired units occurs all at once at the time when they are retired, or at least, at the time when their retirement becomes certain and imminent. This is the ruling of the Internal Revenue Board of the Treasury Department. Thus one of the office decisions of the Bureau (Bulletin 35 of 1921, page 21) is as follows:

> "In order that a taxpayer may be allowed a deduction for obsolescence at any given period, it is essential that the use of the property should have been abandoned during such period or that it become certain that the property must be abandoned at a definite future date."

The Bureau does not recognize any prophetic gifts in taxpayers that would enable them to fore-

tell at what date, if ever, in the remote future, improvements in the art may justify retirement for obsolescence, nor can the Court indulge in such speculations, even based upon the assertions of expert "public utility consultants."

Whatever may have been the opinion of the Court in the *Knoxville* case as to the necessity of the creation of a depreciation reserve accumulating in amount *pari passu* with the expiration of life of each plant unit, that opinion is controverted by the facts of the record in this case.

The appellee has been in business since 1884. It has never had a depreciation reserve; it has never found one necessary (See testimony quoted on pages 461-70, *post*). Witnesses for the appellee testified that such a reserve as is contended for by the appellants is in fact unnecessary.

Appellants' theories are contradicted by three basic facts of the industry, as appears from the testimony, viz.:

(1) The plant and property of a well-maintained gas corporation, and of the appellee corporation in particular, does not, in fact, wear out, deteriorate or lose value by the progress of time.

MILLER: Record, fol. 22,816, 23,030, 23,073, 23,117, 23,134, 23,155, 23,242, 23,381, 23,397.

MAYER: Record, fols. 21,312, 21,462, 21,958.

ALLISON: Record, fols. 24,485, 24,498, 24,513 to 24,536.

SIMPSON: Record, fols. 20,717, 20,933.

WOODS: Record, page 4762, *et seq.*

The plants and properties of the appellee are in fact in high state of repair and first-class oper-

ating efficiency, yielding results as good or better than when the plants were first built.

> Woods: Record, page 4752 *et seq.*
> Miller: Record, page 7613.
> Hine (witness for defendants): Record, pages 13,382, 13,387.
> O'Connell (witness for defendants): Record, page 9523.

(2) The replacement of particular units (other than units which are replaced as "repairs") is not caused by age, wear and tear, rust or rot, but by inadequacy, or by the appearance of new types of apparatus. The installation of apparatus of greater capacity results in economies in the cost per unit of service. The installation of new types of apparatus is brought about because they are more economical.

(3) There is no basis on which to estimate the time at which apparatus will be replaced because of inadequacy or obsolescence, until such replacement is imminent.

> (See Office Decision 1001, Bureau of Internal Revenue, page 21 of Bulletin 35, 1921).

The Rule of Law and the Principle of Economics.

Appellant's theories conflict with a rule of law and a rule of economics:

The rule of law:

> The property of a public utility must be valued as a whole, rather than as the sum of the values of its separate parts.

The principle of economics:

> Any theory of decrease of value by age and use is conditioned on the assumption

> that the economic good, the value of which is so diminished, has a limited term of useful service.

But taking a gas plant as a whole, its capacity for useful service is unlimited, so far as can now be perceived, through the continual replacement of parts. (See Allison, fol. 24,489.)

Therefore, the plant, as a whole, having an unlimited life, is not an economic "good," of which depreciation by reason of expiration of life can be predicated.

Also, appellants' theories offend a rule of justice and public policy, as follows:

> It is just that those consumers who receive a service should pay the cost of rendering it and unjust that consumers, of one period, should be compelled to pay part of the cost of rendering service too thers consumers of a later period.

Replacements (not made as repairs) are made for the purpose of effecting economies, the result of which is lower rates. If present consumers shall be burdened with charges to create reserves for the purpose of replacement, estimated to mature, at the best guess possible, at the time of replacement, then present consumers are burdened with an unnecessary charge that future consumers may have lower rates. If, on the contrary, the cost of the retired apparatus shall be retired out of the economies resulting from the new apparatus, the old rates being maintained until amortization is complete, then no unjust burden will be placed on present consumers, and future consumers will have the benefit of progress in the art in the shape of lowered rates, after the cost of the change has been amortized.

This Court approved of that method of financing replacements in *Kansas City Southern Ry. vs. U. S.*, 231 U. S. 423, 451, 452. This Court said (p. 452):

> "The road or structure have to be replaced with stronger, or more efficient instrumentalities. Abandonments occasioned by changes of this character are therefore chargeable to future earnings, for the reason that the improved condition of the road is not only designed to meet the demands of the future, but presumably *will result in economies of operation*, and so the resulting benefits will be reaped by those who hold the stock of the company in the present and the future.
>
> "The railroad company may, if it sees fit, anticipate general depreciations and make provision for them by establishing a reserve for the purpose; but, if no such provision has been made, the abandonments should be taken care of by charging them to present, or future operating expenses."

It is respectfully submitted that, under regulation, economies in operation will be reaped not by "those who hold the stock of the company in the present and the future," but by the rate payers, and that the stockholders, in installing devices which produce economies ought to be protected and encouraged in making them by permitting the cost of the retired plant units to be amortized, by charging such cost into operating expenses over a period of years, to the extent that this can be done without increasing the rates.

On the other hand, if the value which is the rate base is the value of the plant as a whole, and if replacements are financed by amortization charges through yearly rates, except as to important replacements, the cost of which ought to be amor-

tized over a series of years after the replacement, then liability to replacement does not decrease the value of the plant as a whole to the owner, because it is assured of perpetual operation through charges laid on consumers. His liability to replace is cancelled by the consumer's liability to make good what he pays for replacement.

There was an observation by Special Master Wright in his Report made in *Pacific Gas & Electric Co. vs. San Francisco,* now on appeal to this Court, which goes to the root of the matter. He said (p. 67):

> "Whether the rating base shall be cost new or cost less depreciation is a false quantity. The real question is 'When shall the charges to provide replacement funds begin and end?' The public is interested in the period to which replacement charges are allocated, so that the consumers of one period do not pay the charges properly payable by those of another period."

The record in this case pictures a linked system of plants, pipes, tunnels, commercial buildings, and equipment composed of hundreds of millions of parts. They will not all fail at once. The property, nor any considerable part of it, will never have to be rebuilt in any one year. Parts are replaced daily and charged to repairs. Where is the limit between a repair and a replacement? The replacement of a bolt is the repair to a link of a conveyor; the replacement of a link is a repair to the conveyor; the replacement of a conveyor is a repair to the plant; the replacement of a plant is a repair to the system. In this great system, the cost of replacements averages a nearly equal annual amount, and a more nearly equal amount over a period of five years. All things are relative and what may be termed a replace

ment in a small shop may be termed a repair in a great combination of plants. No one would think of accumulating a depreciation reserve for the cost of yearly repairs, or would write off the depreciation of small articles commonly replaceable in a year or less. The annual charges for repairs and replacements are enough to cover the costs of ordinary annual replacements. Why accumulate a reserve in advance when it is not necessary for the purpose? Why not deal with ordinary replacements as repairs are commonly dealt with, viz.: a charge to the operating expenses of the year? As to extraordinary replacements, they result in economies and should be amortized over future years. And, if no reserve for depreciation is accumulated, and none has been accumulated by this company in its operations of 37 years (Carter, fol. 44,074), why should any amount be deducted for depreciation, when the result of that deduction would be to deprive the company of a return on the whole of its investment: when the decline in value is purely theoretical, and that theory bad economics; and when the result would be to impose an unnecessary burden of rates on the public, in the face of testimony that the plant is not depreciated, and contrary to the opinion of the Master and the Court that no depreciation has accrued?

No Deduction from Investment

Furthermore, in the case of a gas company or other utility furnishing an essential public service, there are very good reasons why fluctuations in the market value of units of equipment corresponding with those of which a utility plant is composed, should not be the basis of deductions from the investment, in determining the sum on

which a return should be allowed. These investments are made under a franchise, as and when the terms of the franchise and the demand of the public for service render them imperative. In many instances they may not be deferred even when the prices of labor and materials and the cost of money soar to unparalleled heights. Nor under the modern system of regulation may a utility go far in taking advantage of a period of low prices, and invest in plant and equipment in anticipation of future, as distinguished from present and immediately prospective, needs.

An investment, once made, is not progressively repaid to the investor by the payment to him of a reasonable annual return thereon, over any period of years. The sum on which he is entitled to receive a return, decreases only when, and to the extent that, he receives payment of something over and above a fair return.

The Additional Burden On the Rate

To burden present consumers each year with one-tenth of the cost of a new unit of plant, on the theory that in ten years it will have to be superseded to make way for a unit which will produce the service *thereafter* in larger quantities or at a lowered cost, offends against sound economics and the matured view of this Court in the *Kansas City Southern* case. Yet that is what the "accrued depreciation" theory involves, fundamentally. There is no need now for putting an additional burden on the *present* rate, in order to "accrue" a fund equal to the cost of a plant or unit which may some day be superseded by a larger or more economical one; because *future*, not *present*, consumers will benefit thereby, and

because the supersession will not take place until it is economical to make it, and then the resultant economies take care of the cost of the withdrawal and the supersession does not even add to the *future* rate. To collect in advance the cost of the withdrawal means not only pure guess-work as to the period which will elapse before the time when, *if ever*, this unit in question will be superseded with a more economical unit, but increased rates for consumers who may never derive any benefit from the withdrawal, and means the accrual of a fund which will not be needed at the time of the withdrawal because the economies from the supersession will take care of its cost.

That the appellants here, true to the habits of "depreciators," present only one side of the picture and demand a large deduction from the invested capital of a company which has never burdened its consumers with such an "accrual" for fancied "depreciation," emphasizes the fallacy and perversity of their position. They propose a *huge deduction* from the appellee's investment, as though it had enjoyed a free hand in the fixing of its past rates and had burdened such rates with the accrual of a corresponding sum for "depreciation" and omit to point out that the company's rates have been fixed by the State Legislature for the past thirty-five years; that no rate thus fixed has ever contemplated the accrual of such a useless reserve; that when the rate was fixed by the Legislature in 1884 this miserable theory had never even been heard of; that it was flatly rejected by the Master and the District Court in the prior suit of this company; and that, without any provision for such a reserve in the company's expenses as found by the District Court, the 80-cent rate was found by this Court to yield a return of slightly less than six per cent upon the company's investment.

This Theory Would Add Several Cents Uselessly to the Rate

The appellants wish adroitly to slice off the "rate base" a sum which has not been accrued, and *to omit from the future rate any provision for future accruals.* Concerning the tactics of the appellants in this respect, the Special Master, on the hearing in the *New York and Queens Gas Company* case, said, as to the testimony in the Consolidated Gas Company case (Record in Case No. 296, pages 1198-99):

> "The Master: So that throughout these years you would say that this company, in addition to the ordinary repairs and replacements and the like, ought to have charged the consumers 6 or 6½ cents more for gas?
>
> Witness Hine: In addition to repairs, not in addition to replacements. This only should take care of replacements. When they take out an engine for some reason or another, the fund would be charged with the cost of that engine.
>
> "The Master: And you say by your exhibit that in addition to the 3 cents for replacements they ought to charge up about 6¼ cents or more to include accrued depreciation and replacements, and depreciate their plant every year as against that?
>
> "Witness Hine: They should lay aside that much to apply to accruing depreciation due to all causes to take care of the cost of property retired.
>
> "The Master: You did not suggest any such item in the Consolidated case, did you?
>
> "Witness Hine: I did not handle that end of it at all.
>
> The Master: Well, you did not suggest any such thing, did you?
>
> Witness Hine: No."

But even if the appellants had been generous enough to present *both* sides of the picture—the effect on the rate as well as on the valuation—their theory would remain unsound, unworkable, and utterly objectionable.

A Concrete Illustration

May we illustrate what we have said above by developing the concrete aspects of a typical case, which any manufacturer or utility manager would recognize as characteristic of the business of selling commodities or service?

Smith embarks in the business of producing a commodity. His machinery, plant and equipment represent an investment of $100,000.

He can produce 500,000 articles which will sell for ten cents apiece.

His gross annual receipts are $50,000.

His operating expenses are $40,000.

His profit is $10,000, or ten per cent. upon his investment.

His investment is represented by:

Land	$10,000
Structure	60,000
Machinery	30,000

At the end of three years, he learns that an inventor has improved upon the machinery required for the production of this particular article and upon investigation ascertains that by the installation of the new machinery, at a cost of $30,000, he can save in the operating expenses $10,000 per annum. The new machinery is installed and the

machinery with which he began business, and which is as good as it ever was, and which with a continuance of good maintenance he might continue operating indefinitely, is withdrawn from service, with the result that of his gross income of $50,000 there is now required:

For operating expenses	$30,000
For Amortization (3 years).	10,000
Leaving a profit of	10,000

There is no more reason than there was in the first instance for his speculating as to the time when new discoveries or inventions will make it profitable for him to displace his new equipment. Nevertheless, after the expiration of another three years, he again learns that improvements have been made by an inventor in the type of machinery required for the manufacture of his particular article, which will reduce his expenses $10,000 per annum. The new machinery is installed at a cost of $30,000 and the machinery theretofore used is withdrawn from service.

At the same time he is able, as the result of the first supersession, to reduce the price of his commodity from ten cents per article to eight cents per article, and in the seventh year his revenue statement on the basis of selling 500,000 articles at eight cents each, would be as follows:

Gross receipts	$40,000
Expenses	20,000
For Amortization (3 years)..	10,000
Leaving a profit of	10,000

At the end of the ninth year, he has completed the "writing off" of the machinery he found it economical to supersede, and he reduces the price

of his commodity to six cents per article. Thereafter, until and unless some further invention justifies or necessitates another supersessional transaction, his annual operations will be as follows:

Gross receipts	$30,000
Expenses	20,000
Leaving a profit of	10,000

During the entire ten years, there was no change in the amount of his profit. During the first six years there was no change in his unit selling price. The cost in the first three years was his operating expenses of $10,000. During the second three years, his operating expenses, including as a proper element of cost the amortization of the investment in the superseded machinery, were ($20,000 + $10,000) $30,000. That is to say, his outlays in manufacturing, distributing, etc., had been cut to $30,000 by the new devices, but for three years he had to provide $10,000 a year to amortize the superseded machinery. After he had again replaced his machinery by more economical devices, during the next three years (7th, 8th and 9th), his annual expenses were ($20,000 plus $10,000) $30,000, which gave him, notwithstanding a decrease of two cents in the selling price per article of his commodity, still a profit of $10,000.

In the tenth year, as stated, he was able to reduce the price of the article two cents more, to six cents, reducing his gross revenue to $30,000; and, the amortization of the last withdrawal having been completed and his operating expenses amounting thereafter to only $20,000, his profits continued at the rate of $10,000 per annum on his $10,000.

For the purpose of presenting the illustration in its simplest form, the elements of interest in connection with the process of amortization and of "scrap value" of withdrawn machinery have been disregarded. The fact that, in order to provide for the elements of "scrap value" and interest on the unamortized investment during the period of amortization, the annual economy would have to be a little greater, or smaller, or the amortization period a little longer, or shorter, than the illustration indicates, has no relevancy to the principle involved.

Had this manufacturer been so misguided as to adopt so-called "accrued theoretical depreciation" as a basis for determining the cost of his product and had he possessed actual powers of clairvoyance and been able to forecast that at the expiration of the first three years his machinery would be superseded, had he seen fit to disregard the fact that the supersession would *pay for itself* and undertaken to collect it in advance, his selling price for the first three years would have been twelve cents per article produced, instead of ten cents, and his consumers during the first three years would have paid *too much* for their product, to enable consumers thereafter to get the product more cheaply as a result of Smith's putting in improved machinery and equipment. Not only would Smith have been robbing Peter (his customers during the first three years) to pay Paul (his customers for the second three years), but, for reasons above stated, he would have put himself out of business altogether, because it is impossible to conceive that all of his competitors would be guilty of similar folly.

The District Judge Found Maltbie's Assumptions Conjectural, "Fanciful" and Unfounded

The testimony having *proved*, and the District Court having found *as a fact*, that a utility plant does not depreciate with age, the appellants nevertheless ask this Court to *assume*, or to take judicial notice of the correctness of, a contrary view on a matter of *fact and experience*.

In reviewing the testimony and making his findings of fact, the District Judge said (Record, pages 146a-147a; 267 Fed. 231, 265):

> "Maltbie figured a 'straight-line' depreciation of three and a half millions, for all plants and holders. *This was necessarily a conjecture*, based upon the supposed life of the plant; *it has no application while the plant is kept up.* * * *
>
> "The other elements of depreciation are for mains, about one million five hundred thousand dollars, and services and meters, one million five hundred thousand dollars. *Any depreciation in the mains appears to me quite fanciful.* Little said that the life of a main when properly buried was indefinite; the only question is of obsolescence and repairs, and I should suppose that obsolescence would occur only after it got too small for its requirements. It might of course be possible to show that all necessary mains could now be laid for less than the book cost, but *the plaintiff has shown the contrary by Miller, and it is not contradicted.*
>
> "As to meters and services the case is not so strong because even if their life be seventy-five years, as Little thinks, no one knows the age of all those in use. Moreover, the depreciation of one million five

hundred thousand dollars is only about twelve per cent of their cost. However, the same rule applies as before. The plaintiff proved the cost and the necessary repairs to bring the whole plant up to its original condition. It proved that the cost of reproducing fixtures of equal capacity was more than the book cost. That made a case, in my judgment, which was proof against any theory of 'straight-line' depreciation. The allowance for repairs might be attacked on the ground that the condition of the plants and fixtures in fact required inordinate repairs, but that was not done. In accordance with the principle which I have tried to demonstrate I decline to make any allowance for depreciation." (Italics ours.)

Age of a Plant Held "Not a Function in Rate Base"

On the broader aspects of the subject, Judge Learned Hand stated his conclusions as follows (Record, pages 146a,-147a; 267 Fed. 231, 266):

> "The defendants insist upon the element of depreciation based upon an allowance each year of that proportion of the total value which a year bears to the whole life of the plant. * * * It seems to me hardly possible in the case at bar to avoid taking a position with regard to that principle.
>
> "If the proper standard for a 'rate-base' is the present cost of a substitute plant of equal capacity, as I believe, depreciation can be a function of it only in case the allowance for renewals to the plant under consideration will in the future be greater than that of the assumed standard. * * * In the case of a public service company where the authorities may always require the plant to be kept up to standard, there is an obvious advantage in declining to at-

tempt a repeated adjustment between the actual renewals necessary and normal renewals, as would be necessary if the present prospect of such allowances were now discounted; it is the better practice to allow the plant to bear its own extra renewals and to insist that it shall always be kept up. *Therefore, it appears that, so far as concerns the future, the age of the plant should not be a function in the 'rate-base.'*

* * * * *

If in fact the capacity has remained the same, depreciation should not be a function of the 'rate-base' at all. In such a case the inquiry as to depreciation should be confined to changes in 'price-levels.'"

Perhaps the clearest analysis that could be made of the testimony and theories of the appellant's witnesses (*Hine, Malthie, Bemis, et al.*), is contained in the Report of the Special Master in the *New York and Queens Gas Company* case argued contemporaneously herewith (Record, Case No. 296, page 57 *et seq.*):

"No Deduction for 'Accrued Theoretical Depreciation'

"In determining that the complainant's property has a fair present value of at least the amount of the complainant's actual investment therein as found by me, viz., at least $1,655,877.94, I have made no deduction for what is termed 'depreciation,' in whatever way calculated. Under any basis of determining present value, the complainant's property is now worth at least the amount of such investment therein, and the sound rule of law and policy seems to require the allowance of a reasonable return upon at least that sum.

"Upon the present trial, it was insistently urged upon me by some of the defendants that there should be deducted from the cost of the property (irrespective of whether 'original,' 'pre-war,' or 'present reproduction' cost be under consideration) an amount claimed to represent so-called 'accrued theoretical depreciation,' based upon an assumption of 'life expectancy' for a gas plant and equipment and the estimated or known number of years since the same was erected or installed. From the testimony given upon the trial, I was strongly impressed by the fact that in respect of a very large proportion of gas property, there is no ascertainable 'life expectancy.' The withdrawal of such property from service comes about from inadequacy or obsolescence which cannot be forecast in terms of years or even satisfactorily guessed at. Certain parts of operating machinery and equipment are of course subject to effects of use. The replacement of these wearing parts enters into the cost of repairs. As to the substantial units of structures, apparatus, mains and equipment, their withdrawal from the property accounts comes about from causes not attributable to the condition of the property itself or any diminution in its operating efficiency, but varying utterly with the particular plant, time, local conditions and service demands and hence capable of being forecast only as the occasion for such change in plant or equipment becomes imminent.

"The Renewal and Replacement of Gas Property

"In other words, in order to keep abreast of improvements in the art of making and distributing gas when and as it becomes economically advantageous to do so, and to meet the growing demand of the public for service more adequately and economically than would be possible through merely making additions and extensions to existing plant and equipment, larger or better and more economical and efficient units of plant and equipment are from time to time installed to take the place of units which still are operating as efficiently as when first installed. The loss due to such supersession cannot properly be said to have accrued during the period the superseded unit was in service. It *occurred* when supersession took place. It became a proper charge against the economies to be realized therefrom. It furnished no basis for the imposition of an additional charge against the user of the superseded unit during the period of its useful service over and above the higher cost of operating it. Such a charge could not be justified either on the ground that the unit was losing potential life, or that the capital invested in it was being consumed, because neither is true.

"Additional Burden on the Consumer Unwarranted

"In order to justify the deduction of 'theoretical depreciation,' I was asked in this case to *assume* that a 'depreciation reserve' equal, to the computed 'theoretical depreciation had been collected from the public, and then to deduct from the com-

pany's investment the amount of such assumed reserve. No such reserve had, in fact, been collected or accumulated by this company. The rate chargeable did not permit it, and there is no reason to believe that the Legislature, in prescribing the rate, ever contemplated it. As I have set forth in Findings Nos. 32 and 27 of my Report and as I have elsewhere indicated herein, the complainant gas company has maintained its property and investment intact in the past, through renewals and replacements, at an average actual cost of approximately three cents per thousand cubic feet of gas sold ,and no reason appears for believing that it cannot continue to do so on that basis. Even assuming that the statute permitted such a rate, to have imposed on the company's consumers an additional burden nearly twice as great, representing a purely theoretical item of operating cost, merely to accumulate a useless reserve to justify a drastic deduction from investment in some ultimate proceeding as to rates, could not have been justified on any sound theory in the past and cannot now be sustained as to the future.

"Effects of an Unnecessary Reserve

"In order to justify the assumption that a 'depreciation reserve' was or should have been collected, defendants' witness Hine testified in this case that such a reserve was necessary 'so that when the property is retired for any cause whatsoever the fund can be charged with the cost of the property.' He testified also that the reserve should be, in his opinion, 'invested in the property,' and that when the funds were needed for renewals and replacements they would be provided 'by issuing securities against construction work which had been

done originally out of this fund, for the money laid aside for this fund, just to reimburse the treasury on account of these expenditures.' This view seemed to me to disregard the obvious fact that having deducted the amount of the reserve temporarily invested in property from that on which he proposed the company should be allowed to earn a return, he, to all intents and purposes, destroyed the earning power of such property and investment; that therefore he could not issue any securities against such property, there being no earnings therefrom with which to pay interest on the securities; that the reserve could never thereafter be availed of for the purposes for which it was alleged to have been created, and that it would be, in fact, as if it had never been created. Thus he not only failed to sustain his contention that a 'depreciation reserve' was necessary for the purposes which he alleged, but he proposed to treat the reserve as if he himself believed it to be both unnecessary and ineffectual, except for the purpose of justifying a deduction from the complainant's investment.

"It is obvious that the collection of an unnecessary reserve and its periodic deduction from the value of the property in service would operate to effect a piecemeal purchase, on the part of the public, of the property used by the utility in its service. In other words, it is really *asking the consumer to pay for the plant instead of paying a return on the investment.* If such a consummation is desirable, of which there is no evidence, it should be effected openly, and not surreptitiously under the guise of providing for so-called 'theoretical depreciation.'

"Present Condition of the Property

"Mr. Miller testified that as of April, 1920, the expenditure of $6,144.07 for repairs, renewals and replacements, would put the plant, structures, machinery and equipment in condition substantially as good as when they were erected or installed. His testimony in this respect was not contradicted by that of any witness. This sum, however, does not, in my opinion, measure any impairment in the present value of the property used and useful in the gas business. It represents merely an unmatured obligation to *maintain* the property in efficient operating condition *out of future earnings,* the expert witnesses of both the complainant and the defendants agreeing *that it was and is maintained in efficient and first-class condition.* I therefore have not deducted this or any other sum representing so-called 'accrued depreciation' from the amount found by me to represent the investment of the complainant in its gas property upon which it is entitled to have its rate such as to yield a reasonable return."

No Provision Was Made by This Court in 1909 for the Additional Burdening of the Appellee's Rate by a "Depreciation" Accrual, and No Deduction for "Accrued Depreciation" Was Made from Value New

The learned Master in the prior suit of the appellee flatly rejected the claims of fact on which "theoretical depreciation" was advanced by the defendants' witness Marks, for the first time in any rate case in Court (Master's Report, pages 35-37); Judge Hough, sitting in the United States

District Court, approved the Master's finding (157 Fed. Rep., 849,856); and this Court made no modification of the finding of the lower Court in this respect (212 U. S., 19, 52).

The facts in the first *Consolidated Gas Company* case, as disclosed in the record, are in brief as follows: The complainant called Frederick J. Mayer, who had been a practicing mechanical engineer for thirty-four years, and for the preceding twenty-three years had been connected with the firm of Bartlett, Hayward & Company, the largest manufacturers of gas holders and apparatus in the country. Mr. Mayer testified to a value of the plant, consisting of buildings, apparatus, holders and general connections at the stations, of $15,532,489, after deducting the sum of $604,988,

> "for depreciation based on an examination of each individual item upon which it was computed. Such deduction represented his estimate of what would be required to place the plant in every respect in condition as good as new, and amounted in the aggregate to $604,988." (Master's Report, pages 29 to 30, 35).

A purported valuation was also put in by Mr. Henry H. Edgerton, who estimated the value of the "plant" at $10,023,057.25; and another purported valuation was put in by William D. Marks, also called in behalf of the defendants, who estimated the value at $9,348,692 (Master's Report, page 29). Mr. Edgerton and Mr. Marks, like Professors Malthie and Bemis and Mr. Hine, in the present case,

"showed no especial qualifications to testify as experts on this branch of the case. *Neither Mr. Marks nor Mr. Edgerton had recent experience in the construction of gas plants in large cities or showed familiarity with existing metropolitan conditions.*"

Mr. Marks had made a deduction for "theoretical depreciation of the proposed life of the plant," and this deduction was completely rejected by the Master, as appears from the following portion of his report (pages 35 to 37):
35 to 37):

"Having thus obtained his total cost, Mr. Mayer made deductions for depreciations *based on an examination* of each individual item upon which it was computed. Such deductions represented his estimate of what would be required to place the plant in every respect in condition as good as new, and amounted in the aggregate to $604,988.

"The examination made by Mr. Edgerton was of such a cursory nature that his figures for depreciation were necessarily made less carefully. In one case, for instance, he ascribed the same depreciation of 10 per cent. to new apparatus installed in 1904-5, as to old apparatus installed 15 or 16 years earlier.

"Mr. Marks did not particularly regard the extent of depreciation actually existing, but assumed a theoretical deterioration of the supposed life of the plant.
"He testified:

"'*Depreciation results from several causes. The most ordinary one is decay or wear and tear, as observed. There is another factor which in inadequacy, owing to the increase of the business. There is also another cause of depreciation, ob-*

solescence, which is due to the changes in the arts and in the methods and in the general growth of scientific knowledge; if a works built at a certain period is kept in perfect repair, meaning by that, always restored to their original condition, and in good working condition, there remains, assuming that, a depreciation due to both obsolescence and to inadequacy.'

"In this view he made estimates on the theory of the cost of final replacement to cover such inadequacy or obsolescence ranging from 25 per cent. to 60 per cent. and based on a supposed life of 120 years for the plant. The discrepancy between his valuations and those of Mr. Mayer is largely due to their different methods of estimating depreciation. He said:

"'Mr. Mayer does not differ largely from my own figures of structural cost. You may say for all ordinary purposes they coincide, with the exception of the gas holders, and even there they do not differ largely. It is the question of depreciation entirely.'

"As will hereafter appear, *it is proper in the administration of a manufacturing plant to take depreciation of the character above described into account and provide against it by setting aside a reserve fund from current earnings. For the purpose of determining present value, however, particularly on the basis of cost of reproduction, the method followed by Mr. Marks does not commend itself.* It appears from the record without substantial dispute, that while certain of the plants and apparatus may not be in perfect repair, they are, as a whole, in efficient operating condition and that a large proportion of their capacity is represented by the latest pattern of

water gas apparatus installed within the last few years. The books show expenditures since November, 1885:

For renewals offsetting depreciation by loss or abandonment	$ 1,227,683.10
For repairs to buildings	1,275,749.03
For repairs to apparatus	4,865,362.51
New construction	3,904,937.31
Total	$11,273,731.95

"The fact thus being that the plants are in good order and operating efficiently, it does not appear reasonable, for the purposes of this case, to charge them with a theoretical deficiency so great as, if actually existing, would make their successful operation a practical impossibility. An estimate of depreciation like those of Mr. Edgerton and Mr. Mayer, based on a detailed examination of the property as it stands to-day, affords in my opinion a more fair and practical method to be followed in determining its value.

"I accordingly find and report the value of the complainant's plants to be substantially in accordance with the estimate of Mr. Mayer, a summary of which is given below; but adopting, for purposes of convenience and to allow for possible overvaluations in some details, the round figure of $15,500,000, instead of $15,532,489, as shown by the appraisal."

It is true that the Master made a deduction for the amount representing Mr. Mayer's estimate "of what would be required to place the plant in every respect in condition as good as new," but the amount was arrived at *by the actual examination of the plant* and report of its *actual condition*, and not by any theoretical estimate of expired age

based upon hypothetical lives attributed to the component parts of the plant or by a process of averaging which is altogether baseless and misleading.

The amount, however, which might be thus expended on a plant which is in good repair and operating efficiency, in order to put it in a condition substantially as good as new, *does not measure an impairment of the investment in the property and should not be deducted from such investment in fixing a rate or testing its validity.* The condition of the particular units of plant and equipment on which such a computation is based is only temporary. It is a mere incident of plant and equipment operation. It possesses no economic significance whatever. As the sum computed will be paid out of the rate collected from ratepayers, as repairs and replacements mature, it may be described as an "unmatured obligation" of the ratepayers to reimburse the company, through the medium of the rates they pay for the service they receive, for the cost of the maintenance and upkeep of the plant and equipment.

The Opinion of Judge Hough in the District Court

When the report of the Master in the prior suit came before Judge Hough in the United States District Court, he completely approved the Master's finding and his method of arriving at its value in this respect (*Consolidated Gas Co. vs. City of New York*, 157 Fed. Rep., 849, 854, 855, 856), saying:

> *"In every instance the value assigned in the report is what it would cost presently to reproduce each item of property, in its present condition, and capable of giving service neither better nor worse than it now does."*

> "I think the method of valuation applied by the report to land, plant, mains, services and meters lawful."

Except in respect of a single item, the valuation found by Judge Hough was adopted and utilized by this Court, with no suggestion at all that "accrued theoretical depreciation" should be deducted from value new or from investment, or that the rate should be tested on a basis burdening it with accruals for "depreciation" based on assumed expiration of life expectancy.

The Recent Decision of the Circuit Court of Appeals in the Nashville Case

Illustrative of the general disposition of Courts and regulatory authorities to make a re-examination of this whole subject in the light of the developed experience of public-service enterprises is the decision of the United States Circuit Court of Appeals for the Sixth Circuit on December 7, 1920, in *Nashville C. & St. L. Ry. Co. vs. United States* (269 Fed., 351). In that case, the railway company had computed "depreciation" of roadway for the two years in question by the so-called "straight-line" method, taking three per cent. of the value thereof as annual depreciation on the theory that the average life of the perishable elements was thirty-three and one-third years, and had deducted the amount from gross income. The Government's contention was that there was no net depreciation in the intrinsic value of the roadway and structures considered as a unit and that the deduction should not have been made. The Circuit Court of Appeals sustained this view, quoting with approval the testimony of witnesses that "there may be depreciation in the units comprising the roadway, track and structures of the

railroad, while there is no depreciation in the machine as a whole"; also that it is possible "to maintain the roadway, track and structures so that there will be no depreciation if we consider the roadway, track and structures as a composite whole"; also that "the service life of any normally operated and well maintained railroad is perpetual and it is maintained in the condition of property serving its purpose by annual renewals and replacements."

Contentions of the Government in the Nashville Case

The contention of the appellee is no novelty resorted to in aid of a utility corporation seeking to obtain a return on a larger capital investment than it otherwise could. The contention is that recently urged, successfully, by the Government of the United States. Of great interest in connection with the foregoing decision of the Circuit Court of Appeals are the following excerpts from *the brief filed in behalf of the United States*, by way of reply to the contentions of the brief submitted in behalf of the railroad company:

> "The Government admits that there would have been depreciation to the roadway of the railway for the years 1909 and 1910 after all reasonable and proper repairs merely had been made; but *the Government proved* that the renewals and replacements, together with the repairs which were made, maintained the roadway, and, in fact, kept the roadway in as good or better condition at the end of each of said years as it was in at the beginning of each of said years, *and that therefore there was no depreciation.*

"It is the theory of the Government that the usefulness of roadways determines their value in use. In other words, as their usefulness is, so is their value. *If their usefulness remains the same, their value also remains the same;* if their usefulness is increased, their value is correspondingly increased; if their usefulness is decreased, their value is likewise decreased. It is obvious, therefore, that whatever increases or reduces the usefulness of railroads, correspondingly increases or reduces their value. In this connection, it is well known that wear and tear, etc., reduces the usefulness, and consequently the value of railroads. On the other hand, it is equally well known that repairs, renewals, and replacement of parts increase the usefulness and consequently the value of railroads. It is also well known that the occurrence of wear and tear is the occasion for repairs, renewals and replacements of parts, and that, with the roadway and other property properly managed, railway companies' wear and tear no sooner occurs than renewals and replacements are made—so that both take place simultaneously and tend to counteract or offset each other.

"When this occurs, *i. e.*, where wear and tear suffered by railroads is sought to be offset or counteracted by repairs, renewals, and replacements of parts, one of three results must happen. First, if the wear and tear is exactly offset or counteracted by repairs, etc., the usefulness and value of the railroad remains the same and the value is said to be 'maintained' intact. Second, if the wear and tear is not entirely overcome by the repairs, etc., the usefulness and value are reduced and the value is said to be 'depreciated' to the extent of the difference between the original and present value of

the railroad. Third, if the wear and tear is more than overcome by repairs, renewals, etc., the usefulness and value is 'increased' and the increased value is regarded as 'an additional capital investment.'

"Counsel for the railway, on page 44 of its brief, says:

> 'The fallacy in the Government's theory is, first, that it considers "betterments" as a means of offsetting depreciation. This cannot properly be done; sums for betterments are charged to capital account, not operating expenses.' "

The Government Proved There Is No "Accrued Depreciation" of Railway Property

"The Government did not consider betterments as a means of offsetting depreciation when sums expended for betterments were charged to the capital account of the railway. The Government proved that it is an established policy of American railways not only to maintain but to improve the usefulness and value of their roadways; and to accomplish this end, it is their practice to make repairs, renewals, and replacements of parts as occasion requires, and that *as a result of such policy and practice, railways prevent or overcome depreciation in the value of their roadways as a whole and continue the service life of their roadways indefinitely.* Materials of a more modern and improved type are constantly being used in effecting renewals and replacements of a roadway which actually constitute an improvement or betterment which is not usually shown on the books, as will be shown from Mr. Isbell's testimony, on pages 43 and 44, which is as follows:

> 'I do not think the deduction made by the railway for depreciation of its road-

way should be allowed because in these charges for maintenance of roadway are included items for renewals and replacements. Under the income tax law, renewals and replacements should be charged not against expenses, but should be taken from a depreciation reserve, if such a reserve is on the books. It could not be taken from a depreciation reserve unless such reserve does appear on the books. Then it is not an allowable expense or deduction on the income or excise tax returns, for the reason that this renewal or replacement keeps the property to its original value. As to what I mean by original value, when the railroad replaces any item, they try to, according to my experience, make it as good or better. For instance, if a cross-tie is replaced, if they can get a better cross-tie to put in there, they do it. In the matter of what is technically known as other track material, consisting of such things as switches and frogs and things like that, they try to put in a better one if they have to replace an old one; they try to put in better ballast, if possible. In that way they not only effect a renewal, but they have an improvement or betterment, which is not usually shown on the books. Of course, if they build additional trackage, that is charged to capital account, and is an addition or betterment, and that does not enter into this question whatever. * * *

'When a tie is played out, a new tie is put in place. That is called a renewal or replacement. In the same way, if a depot needs to be rebuilt, and about the same character of structure is to be built, that is called a renewal or replacement of the depot, and the same thing is true of a

trestle. If the trestle is replaced as near as possible at about the same cost as the old one, that is called a renewal or replacement of that bridge or trestle.

'If an additional track is built, for instance, a branch line is built to a new town or new territory, even if it is one mile or fifty miles long, that is called an addition or betterment. If a bridge costing $10,000 is replaced by a new one costing $20,000, then $10,000 is a renewal and charged to operating expenses, and the additional $10,000 is an addition or betterment, and that goes into the capital. It is not charged as an expense against the gross income for one year.' "

The Contention of the Government as to the Effect of Renewals and Replacements

"Counsel for the railway states on page 45 of its brief as follows:

'The Government gave no consideration to such repairs as painting a depot, putting windows in machine shops, fixing the floor of a section house—that class of repairs that prolong the life of the unit repaired but cannot totally arrest its depreciation.'

"Mr. Isbell, one of the Government's witnesses, in his answer to the following question in regard to repairs to depots, shows very plainly that repairs are taken into consideration (see Tr., page 47):

'Q. If a railroad company repairs a depot, by painting, for instance, will that arrest the functional depreciation that is accruing daily to take care of increased business in the future?

'A. It arrests the deterioration of the plant. It replaces the paint. It would

not arrest the depreciation of any other part. That would be arrested when that other particular part might be repaired.'"

* * * * * * *

"Since, as Mr. McKeand stated, a railroad property is of necessity a composite property, made up of individual units, the proper and only basis upon which any sane method of depreciation could possibly be figured would be upon the composite property and not upon the millions of individual units which go to make up the composite property.

"In other words, as aptly expressed by the learned Trial Judge, in his charge:

'I further charge you, as a matter of law, construing this statute, that in that sense you should not consider each of the individual units that enter into the roadway. It was not intended to have a system of bookkeeping with reference to each particular cross-tie or each particular rail, but you should look to the value of the roadway as a whole, comparing its value at the beginning of the year with its value at the end of the year' (Tr., page 104).

"If the statement of counsel for the railway that 'it is undisputed that functional depreciation cannot be arrested, retarded or offset by repairs, renewals or replacements' were correct, then it would necessarily follow that no matter how much money was expended each year on any roadway, then it would be impossible to prevent that road way from at some time becoming absolutely worthless, and it would have to be abandoned at some time in the future. It is a matter of common knowledge that such a catastrophe never occurs, and that if a roadway is properly maintained from day to

day and month to month and year to year by the expenditure of proper amounts in making repairs, renewals and replacements, that the life of the roadway is perpetual and that the roadway will never have to be junked as a whole or entirely rebuilt."

* * * * * * *

"Since the railway has admitted that its railroad is a well maintained railroad, and since one of its experts, who was called as a witness for the railway in its behalf, has suggested that 'the service life of any normally operated and normally and well maintained railroad is perpetual, and it is maintained in the condition of properly serving its purpose by annual renewals and replacements,' *it is apparent that the service life of the N., C. & St. L. Ry. is perpetual and that the repairs, renewals and replacements which were made to it during the years 1909 and 1910 eliminate both functional and physical depreciation or any other kind of depreciation* which would have taken place had it not been for the repairs, renewals and replacements which were made, as testified to by its Chief Engineer, Mr. Hunter McDonald."

In *Landon vs. Court of Industrial Relations* (269 Fed. 433, 445), District Judge Booth expressed the prevailing tendency to reject "theoretical depreciation" in all forms:

"* * * in my judgment the element of depreciation *should not be measured by a theoretical yard-stick*, but should be determined by a careful consideration of *the actual facts* touching the physical condition of each particular plant under consideration."

The Recent Decision in the Pacific Gas and Electric Company Case.

The reports filed by Ex-Judge H. M. Wright in *Contra Costa Water Co. vs. City of Oakland* (113 Pac. 668) and in *Spring Valley Water Co. vs. San Francisco* (252 Fed. 979) (1918), are often cited as giving support to the inclusion of provision for "accrued theoretical depreciation" in utility rates and the deduction of the estimated amount of such "depreciation" from the sum on which the fair return to be earned by the utility would otherwise be computed. Those who cite these earlier discussions from the erudite pen of Judge Wright overlook the conclusions of his elaborate report as Special Master in *Pacific Gas and Electric Co. vs. City and County of San Francisco,* filed March 2, 1920 (Northern District of California), to which District Judge Rudkin, on June 3, 1921, dismissed the exceptions, upholding the Special Master's findings (273 Fed. 937).

In the case just cited, Judge Wright expressed the view, now becoming general, that in the light of business and engineering experience and the literature of the subject, including recent judicial decisions, the whole matter of "depreciation" and earlier rulings concerning it, must be re-examined. He concluded that in a rate case, the matter of so-called "depreciation" is "a false quantity," and that the real question is "When shall the charges to provide funds for replacement begin and end?"

He said:

> "Unlike tables of human mortality, tables of the mortality of structural ele-

ments, founded on the experience of plants all over the country, or a table of abandonments in the plant under examination, will, all alike, be unsafe guides for prediction of future experience. For certainly, to the extent that past abandonments have occurred by reason of obsolescence or inadequacy, there can be no uniform rule, in the nature of things, and therefore no guide for forecast of the future" (page 45).

Further Consideration of the Knoxville Water Company Case.

The *Knoxville Water Company* case (212 U. S., 1), decided in 1909, is the ruling most commonly referred to as supporting the view of the "ultra-depreciationists." In that case this Court said, in part:

> "A water plant, with all its additions, begins to depreciate in value from the moment of its use. Before coming to the question of profit at all the company is entitled to earn a sufficient sum annually to provide not only for current repairs but for making good the depreciation and *replacing the parts of the property when they come to the end of their life. The company is not bound to see its property gradually waste without making provision out of earnings for its replacement.* It is entitled to see that from earnings the value of the property invested is kept unimpaired, so that at the end of any given term of years the original investment remains as it was at the beginning. It is not only the right of the company to make such a provision, but it is its duty to its bond and stockholders, and, in the case of a public service corporation, at least, its plain duty to the public. *If a different course were pursued the only method of providing for replacement of property which has*

> *ceased to be useful would be by the investment of new capital and the issue of new bonds or stocks.* This course would lead to a constantly increasing variance between present value and bond and stock capitalization—a tendency which would inevitably lead to disaster either to the stockholders or to the public, or both."

The foregoing does not seem to be of necessity at variance with the views above expressed, although its phrasing was not as exact as present-day utility experience would desire. The property of a utility begins to experience the effects of use, as soon as it goes into use. The Court is discussing the question of rates rather than of valuation. It says that the utility company is entitled to earn *annually* a sum sufficient to provide, not only for repairs, but also for "replacing the *parts* of the property" when they are no longer susceptible of use and have to be replaced. The current rate must bear the current cost of replacement as well as repair, as the need arises. *The Court was declaring a principle, rather than prescribing a method.*

There is not the slightest indication that in the mind of Mr. Justice Moody in 1909 there was any thought of the impairment of the investment of utilities in their properties through sanction of an artificial and arbitrary deduction. On the other hand, the language of the Court in the paragraph quoted plainly discloses the intent of the Court to indicate the *rights and privileges* of utilities to *maintain their properties* and *their investment intact.* In the first sentence, for example, the words "the company is entitled," are used; in the second sentence appear the words "The company is not bound to see its property gradually waste;" in the third sentence the words "It (the company) is entitled to see that

from earnings, etc., etc.," are used; and in the fourth and last sentence in the paragraph are found the words "The right of the company" and "Its (the company's) duty to its bond and stockholders, etc.;" this sentence also indicating that in the Court's opinion, making provision for the maintenance of the property by renewals and replacements is the public service corporation's plain duty to the public.

The thought which seems to have been in Mr. Justice Moody's mind was, in substance, that the cost of the maintenance of plant and equipment by renewals and replacements was a proper charge against earnings and that the earnings should be adequate for this purpose. In other words, that the cost of such maintenance should not be capitalized. All of which is perfectly sound. In fact, it is so self evident as to lead one to inquire as to the reason for its enunciation. The answer is found in the fact that in the *Knoxville Water Company* case the Master included in the assets of the company—in other words, in the rate base upon which the rate of return was computed—certain plant and equipment that had been superseded by other plant and equipment and had been definitely withdrawn from service. In the Court's opinion, this inclusion was improper on the theory that the discarded plant and equipment should have been charged against prior earnings and not continued in capital account. The record does not disclose (1) whether the earnings had been theretofore adequate to enable the writing off of the loss due to the withdrawal in question; (2) whether, if they were inadequate, the company had the right arbitrarily and of its own motion to increase its rates and make them

adequate. If the answer to both is in the negative then an obvious error was committed because the right to charge the loss against the earnings continued and provision should have been made therefor in the rate under review, which would require a slightly higher rate during the period of amortization than would be necessary to pay merely a return on the unamortized investment. If it was the Court's intention to establish a rule that the loss due to renewal and replacement of property may in no event be charged against earnings accruing after the fact, then, as we shall later point out in detail, any such ruling seems to have been definitely overturned by this Court in its later decision in the *Kansas City Southern* case.

As we have seen, it has come to be generally recognized that a very large percentage of the cost of supersessional operations, commonly alluded to as "renewals and replacements," is due to inadequacy or to advancement in the science of rendering public utility service. Some of the best informed engineers attribute from 90 to 95 per cent. of the cost of so-called renewals and replacements to these causes and from five to ten per cent. to wear and tear. This being the case it is manifest that such cost is chargeable against current or subsequent earnings and not at all to prior earnings. As a matter of fact it is almost universally provided for out of current earnings. The most recent system of accounting formulated for public utilities (*) provides not only that the cost of renewals and replacements shall be charged against current earnings but that in case

(*) Uniform System of Accounts for Gas and Electric Companies, recommended to the regulatory commissions of the various States by the National Association of State Railway and Public Utility Commissioners at its Annual Convention in Washington, D. C., November 9-12th, 1920.

the amount involved exceeds the current provision therefor together with such balance as may appear to the credit of the renewal account it may be carried in a capital suspense account pending its amortization through the annual provision for this purpose.

The fact that the greater part of the plant and equipment of a utility has no ascertainable life and that if kept in repair it can be operated as efficiently as when it was installed until the end of time, unless for purely economic reasons it is displaced by other plant and equipment, leads to the conclusion that if the *dicta* of the *Knoxville* case were based upon the assumption that such property had a definite life which was terminated by wear and tear and that in the meantime it was gradually wasting, then in this as in all other debatable subjects, we believe that theory must, in the final analysis, yield to fact. The expressions used by the Court are, however, reconcilable with present day experience. The first sentence in the quoted paragraph reads as follows:

> "Before coming to the question of profit at all the company is entitled to earn a sufficient sum annually to provide not only for current repairs but for making good the depreciation and replacing the parts of the property when they come to the end of their life."

If there were any doubt that what was meant by the last half of the sentence is that a utility company is entitled to earn a sufficient sum annually for *making good depreciation by replacing the parts of the property when they are withdrawn from service*, then Congress has settled the

question in the Water Power Act by providing for a "depreciation reserve" and defining very definitely what it is for, viz., the renewal and replacement of plant and equipment. The same bill also plainly indicates that by such renewal and replacement the investment is kept intact and unimpaired.

The second sentence reads as follows:

> "The company is not bound to see its property gradually waste, without making provision out of earnings for its replacement."

In the light of the facts before the Court in this case, it may be assumed that the Court had reference to the practice apparently prevailing in the Knoxville company of continuing to carry, in capital account, property which had been withdrawn from service and discarded, making no provision either at the time or subsequently for the amortization out of earnings of the investment therein, which practice would represent a wasting of assets and an impairment of the investment as measured by the property remaining in service, and that the thought in the mind of the Court was that *the cost of property displaced and withdrawn from service should be charged against the earnings* and not continued in capital account.

The third sentence reads:

> "It (the company) is entitled to see that from earnings the value of the property invested is kept unimpaired, so that at the end of any given term of years the original investment remains as it was at the beginning."

If a utility has been permitted to earn a sufficient sum annually to enable it to charge all property withdrawn from service against earnings and has so charged off all displaced property and has maintained the rest of its plant and equipment in good operating condition, so that at the end of any term of years its capacity for rendering service remains unimpaired, *the original investment in the plant still in service remains what it was at the beginning.* Professor Laughlin has well referred to the investment as a *stream* of capital. As fast as water from the stream runs over the mill-wheel, it is replaced by new water. The value of the water-power is not decreased by the water that runs away.

Thus interpreted, Mr. Justice Moody's opinion conforms not only to sound theories of economics and finance, but to the facts now more fully known regarding the operation and maintenance of the plants and equipment of public utilities.

"Shrinkage in value" may not be attributed to the mere incident of use where the article used does not decrease in productivity or deteriorate in condition from the effects of use. Therefore, the word "depreciation" applied to property which does not so deteriorate from use, must, as Judge Hand said in the present case, have the meaning of "a shrinkage in value" due to a *decrease in the price level.* Similarly the word "appreciation" applied to property which does not improve from use must have the meaning of "an expansion in value" due to an *increase in the price level.*

A suggestion that an investment in utility property which continues in a high state of repair and with as great or greater productivity and

efficiency, begins to "shrink" the moment it is made, notwithstanding the fact that the price level remains unchanged, could hardly be seriously entertained.

It does not seem conceivable that Mr. Justice Moody would have made, or that this Court would have sanctioned, such a pronouncement as the "depreciationists" construe Mr. Justice Moody's remark to have been.

The kind of "shrinkage in value" which the Court evidently had in mind was that which would result from failure to charge the cost of displaced property against earnings and from capitalizing the expenditures involved in supersessional transactions, thus destroying the parity between *outstanding stock and bonds* and *property in actual service,* the former exceeding the latter, thus producing a *shrinkage* in the *property in service* as compared with the *capitalization.* This would seem to be established by the conclusion immediately following the *dicta* heretofore quoted:

> "If a different course were pursued the only method of providing for replacement of property which has ceased to be useful would be by the investment of new capital and the issue of new bonds or stocks. This course would lead to a constantly increasing variance between present value and bond and stock capitalization—a tendency which would inevitably lead to disaster either to the stockholders or to the public, or both."

It may further be pointed out that if, as is often urged, this Court intended in the *Knoxville* case to hold that the cost of superseded property should not be amortized from present or future earnings, the decision in *Kansas City Southern Ry. Co. vs. U. S.* (231 U. S. 423; quoted from on pages 381-82, *ante*), seems explicitly an overruling precedent. The major part of the culminated depreciation involved in the *Knoxville* case arose from the abandonment of a water station which had cost a predecessor company $52,000. Its withdrawal from service was attributed to the fact that it was a duplication of plant facilities, and its use by the present company was no longer economical or necessary. The position of the company before the Circuit Court was that the amount of "culminated depreciation" should not be deducted from the "rate base" unless and until the same had been amortized and provided for through the operating expense accounts (Print 202; 13th Exception; Point 191).

The Circuit Court sustained this contention. This Court, however, deducted $50,000 for "depreciation" from the figures representing "reproduction cost new," but omitted to add anything to the expense accounts for the amortization of the sum deducted. In the *Kansas City Southern* case, nearly five years later, this Court sustained a rule of the Interstate Commerce Commission providing for the amortization by way of charge to future operating expenses of the cost of portions of a railway division withdrawn from service because of the construction of a new line with lower grades and increased capacity, holding that

the cost of property thus withdrawn from service should not remain in the investment accounts and that "*abandonments occasioned by changes of this character are therefore chargeable to future earnings.*" (231 U. S. 423).

The Decision in Bonbright vs. Geary

Reference is frequently made to the decision of the Special Statutory Court convened under Section 266 of the Judicial Code of the United States in *Bonbright vs. Geary* (210 Fed. 44), as sustaining the deduction of "accrued theoretical depreciation." We do not find such a citation to be warranted. That decision was rendered in the United States District Court for Arizona, in 1913, by Morrow, Circuit Judge, and Van Fleet and Sawtelle, District Judges. The rates proceeded against were gas and electric rates prescribed by the Corporation Commission of Arizona. After quoting (210 Fed. 52) from the "uncontradicted statement" of the expert engineer for the company to the following effect:

> "*Condition of Property.* The gas and electric plants of Pacific Gas & Electric Company are in good and efficient condition. All parts of the electric generating plant are modern, up-to-date installations, including turbo-generators, water-tube boilers, condensers, oil and lamp black burning apparatus, etc. There is an ample water supply obtained from wells. The new gas generating plant is a modern, up-to-date, reversible Lowe water gas apparatus. Both plants are housed in brick buildings with steel truss roofs covered with fireproof material. Neither plant could be improved upon anywhere. The electric distributing system is the most modern type

> for distribution in cities of this character, and all the lines, transformers, and service equipment are of the latest, most improved type. The gas distributing system includes ample mains, well laid, the greater portion of which have been installed during the last three years. This distributing system is in the best possible condition and of the most up-to-date qualifications. The utility equipment of the company is also of the latest design, including automobile trucks and the latest office labor-saving devices."

The Court, through Morrow, Circuit Judge, said along lines sustaining the views hereinbefore expressed as to the proper interpretation of the *Knoxville* case:

> "It would seem that, if the plant is in the condition set forth in this statement, a deduction of 49 per cent. from its original value for depreciation, or approximately that percentage, is excessive; but to what extent it is excessive we do not now determine. We call attention to the statement for the purpose of referring to the fact that the plant appears to have been kept in repair and is now in good condition. In the *Knoxville* case the Supreme Court commended this method of preserving the integrity of a public service plant. • • •
>
> "This brings us to a peculiar feature of this case. There was on hand in the treasury of the company at the time of the valuation of the plant the sum of $64,292.67, accumulated for the purpose of meeting the expense of current repairs and for replacing such parts of the property as had been worn out and the life of the part ended. The fund had been withheld from the stockholders that it might be used in preserving the plant in good condition and in proper efficiency. This was good business judgment on the part of the officers of the cor-

poration and must be approved. Public service corporations are to be encouraged in maintaining their plants in a proper state of efficiency. We are of the opinion that the Corporation Commission was in error in its estimate of depreciation of this plant, and *particularly was in error in omitting this reserve fund from its valuation of the plant.*"

The Cumberland Telephone & Telegraph Case

The decision of the United States Circuit Court in *Cumberland Telephone & Telegraph Co. vs. City of Louisville* (157 Fed. 637, 650; reversed 212 U. S., 414) does not seem to warrant the frequent references made to it by advocates of the "accrued depreciation" theory. The Court said:

> "We have not been able, from anything said by the Master, to see what his reasons were for the reduction of 10 per cent. for depreciation, as shown in the above extract from his report, particularly as the large sums shown by him to have been expended for maintenance and reconstruction had, as he tells us, put the plant in excellent condition and practically equal to a new one, and had prevented any material change of its value during the 20 months the case was before him. If we eliminate the 10 per cent. reduction made by the Master we find that his estimate of the value of the plant would be $1,506,665.09, which would be $133.88 in excess of the original cost of the plant, which he found to have been $1,506,531.21. We think the reduction of 10 per cent. under the circumstances, *was in large measure an arbitrary reduction in the sense that it was without an adequate basis in view of the large expenditures made to keep the plant up to the standard.*"

Oklahoma and Pennsylvania Decisions Sometimes Cited As Adverse Authority.

Advocates of "accrued theoretical depreciation" often cite as authority in their behalf the decision in *Pioneer Telephone & Telegraph Co. vs. Westenhaver* (29 Okla. 420) (1911). In so doing they overlook the later decision in *Pioneer Telephone & Telegraph Co. vs. State of Oklahoma* (167 Pacific 995), in which the Supreme Court of Oklahoma said, in 1917:

> "We are unable to perceive the necessity for building up a fund to be used for the purpose of counteracting a purely theoretical depreciation. The theory of the Commission seems to be that charges should be made in rates sufficient to counteract or prevent depreciation by replacements and that when replacements are thus fully provided for depreciation is counteracted."

The Superior Court of Pennsylvania has recently reaffirmed its decision respecting depreciation in *Ben Avon Borough vs. Ohio Valley Water Company* case (9 Pa. Corp. Rep. 404; reaffd. *Id.*, P. U. R. 1918 A. page 161; 75 Pa. Super. Ct. 260; see, also, 253 U. S. 287), in which the Pennsylvania Court said:

> "Depreciation, though largely theoretical in its nature, which is allowed on the reproduction cost, seems to have a fixed place in valuation. If, however, replacements and renewals are amply provided for and made, depreciation only to a very small extent takes place. If, through depreciation, the value of the property is largely reduced, the securities which were placed thereon may be unnecessarily reduced in value. As these charges withdraw

from the rate-making base, such depreciation naturally effects a purchase of a part of the property for the consumer—a thing never contemplated. A rate for renewals and replacements should be provided and expended for that purpose; when that is done, as is the custom in every utility concern, depreciation is a very small fractional per cent. This should be placed in a reserve, and it, with renewals and replacements, are properly allowable in fixing a schedule of rates."

The Minnesota Rate Case

In the *Minnesota Rate Case* (230 U. S., 352), the Master had made no deduction for "depreciation," holding that while as to certain classes of carrier property there had been depreciation *in fact,* yet it was more than offset by the appreciation; that the roadbed was constantly increasing preme Court declined to approve this disposition of the matter by the Master, pointing out that he had also allowed a gross sum separately for adaptation and solidification of the roadbed. At page 457, Mr. Justice Hughes said:

"It is also to be noted that *the depreciation in question is not that which has been overcome by repairs or replacements,* but **is the actual existing depreciation** in the plant as compared with the new one. It would seem to be inevitable that in many parts of the plant there should be *such depreciation,* for example, *old structures and equipment remaining on hand.* And when an estimate of value is made upon the basis of reproduction new, the extent of existing depreciation should be shown and deducted. * * * And when particular physical items

> are estimated as worth so much new, *if in fact* they be depreciated, this amount should be found and allowed for. If this is not done the physical valuation is manifestly incomplete, and it must be regarded as incomplete in this case. *Knoxville vs. Knoxville Water Co.*, 212 U. S., 1, 10."

There would seem to be no great reason to doubt the kind of "depreciation" the Court was discussing in the *Minnesota Rate Case*. It was actual deterioration, represented by old and useless buildings and equipment *remaining in existence and retained in the capital account, but no longer used and of no utility*—not equipment and buildings actually rendering service as economically and efficiently as when new. Furthermore this opinion, with its qualification that if "*existing*" (not *theoretical*) depreciation "be found" in respect of "*particular physical items*," not the property as a whole (in other words, that only "*if in fact they be depreciated*" may an allowance be made), completely negatives the assumption of "theoretical depreciationists" that, regardless of the condition of the property and of the fact that its capacity for service is unimpaired, every unit must nevertheless be regarded as having suffered an average diminution in value of from 20 to 40 per cent.

In *Lincoln Gas Co. vs. Lincoln* (223 U. S., 349, 363), decided two years after the *Knoxville* case, which is supposed by some to have settled the whole subject, this Court nevertheless said:

> "The question as to what sum, *if any*, upon the facts of this case, should be annually deducted from the net income as a permanent maintenance or replacement fund is *novel*, and presents a *grave problem*."

Essential Purposes Underlying the Sound Treatment of "Retirement Expense"

Looking at the matter momentarily again from the viewpoint of fundamentals, it may be observed, at the risk of re-statement in part of something already said, that the objectives of any sound treatment of "retirement expense" are threefold: (1) to ensure to the public good, safe service, through keeping the utility property in good repair and operating efficiency; (2) to protect the public from unlawful and burdensome exactions, and (3) to secure to investors in utility enterprises a fair return upon the property employed in the public service. The object in view cannot be accomplished unless an economically sound plan for the maintenance of the integrity of the property and investment through repairs, renewals and replacements, be set up and followed. The application of unsound and fanciful theories leads to results most unjust to all affected. The public utility is at all times entitled to a reasonable return on the fair value of its property, and the user of its service is entitled to service at the lowest cost consistent with efficiency of service, the defraying of operating expenses, and the earning of a fair return on the investment.

The investment of money in public utility is made to serve the needs of particular communities, usually a territory in course of growth and development. Continuous and efficient service is demanded and must be provided. Repairs are necessary as portions of units of property are worn in the service of the patrons, and the expense thereof must be currently provided, in the rate. As time goes on, certain items of property which

have not been affected by use or wear, may nevertheless be retired to meet the growing demands upon the system. Some are retired to effect economies; others go out because larger facilities are needed or become more economical. These processes of repair, renewal and replacement go on continuously; their combined effect is to perpetuate the utility property as a going concern. No one thinks of a time when the entire plant, structures, machinery and equipment will be retired or go out of service. The utility property is perpetuated and its efficiency maintained, and the expense thereof borne by the users.

Additions to the capacity of the utility, extensions of its plant and distributing system, etc., should of course be provided for by the employment of new capital invested by those having the capital to invest and not by exactions from patrons. All those expenses which are required for what are commonly known as repairs, replacements of wearing parts, etc., and which are currently made in the every-day operation of the system to make good the parts that actually wear out in the service, should be met by the every-day users of the utility's service and provided for in the rates charged. The cost of items of property which are not worn out in use, but which it may become necessary to retire for other reasons, such as increases in facilities to accommodate additional patrons, or to effect the economies made possible by the progress of the art, is chargeable against the economies resulting from such retirement.

Reasons Why the Cost of Retirements Should Not Be Anticipated Through Accruals Based on "Life Tables"

This may be made concrete by saying that outside of such portions of the plant, equipment, etc., as are affected by wear and tear and so are made good by current repairs, the great bulk and in fact, substantially all the major items going to make up a utility property, are not subject to wear and tear and have lives of indefinite duration, and are continued in use indefinitely if the service conditions presented when the demand for service greatly increases do not render them *inadequate* or if economies and betterments made possible by the progress in the art do not make them obsolete, even though still rendering their original services at least as economically and efficiently as when installed. This increase often necessitates the installation of larger or different units to meet the increased demands, but otherwise their use goes on. For example, in a gas plant or steam-generating plant for electricity, the replacement of checker brick in a gas machine, the installation of new tubes in a steam boiler or a condenser, the repairing of a meter or service, the painting of a holder or a building, the replacing of a pole, the overhauling of a pump or engine, the pointing up of a wall, renewal of the slate or shingles on a roof, and the like, are all matters of *repair* which are taken care of in the everyday operation of the plant and charged to its operating expenses. In this way the consumer bears his burden of maintaining the plant in condition to render him service. It is his proper burden and should rightly be borne by him because it is his use of the service that makes the expense necessary.

But when the time comes, if it ever should come, that a length of gas main, a purifier box, a rotary converter, or a switchboard, or a part of some such unit, would need to be retired, such expense should not be put upon the past consumers, because their *use* has not made the retirement necessary. *Use* has not lessened the efficiency of these units or created the conditions of increased demand, greater economies, or progress in the art, which lead to their retirement. The mere expiration of *time* has not created these conditions, which bear no relation to any fanciful "expired portion" of an "estimated life" of the property to be retired. The burden or expense should, as was pointed out in the opinion in the *New York & Queens Gas Company* case, quoted from on page 394 *et seq. ante*, be met in another way from that followed as to current repairs, and the only just way to meet it is by placing it upon those who benefit by the change, to wit, the larger body of consumers, whose present and prospective requirements compel the change, and it is a change which would not be made were not the improvements and economies effected thereby to operate to their benefit. The expense of such retirement *adds nothing to the rate*, because being offset by economies it does not unduly burden the operating expenses. *If collected in advance, however, it would mean increased rates to those who might never derive any benefit therefrom.*

The Appellants' Claims As to the Appellee's Treatment of the Retirment of Certain Small Units of Property.

On page 214 of the Appellant Newton's brief it is stated:

> "The Master adopted as a matter of fact the book cost without any deduction for depreciation, except in the case of furniture and fixtures, cocks and connections, horses, wagons and harness, tools and implements, scows, gas appliances rented and automobiles and accessories."

And again:

> "The company deducted depreciation upon such things as cocks and connections, but no depreciation upon meters, for which the cocks and connections are provided. Likewise gas appliances that were rented were depreciated to some extent, but services were included at cost."

And later that

> "The Master nowhere attempts to explain why the same rule as to depreciation of physical property that applies to automobiles, horses and wagons and furniture and fixtures and scows does not apply to meters, services, mains and plant equipment."

The inference attempted to be conveyed here is that the appellee, in respect of certain classes of property, had committed itself to the kind of depreciation for which the appellant Newton contends.

This is contrary to the fact, as counsel for this appellant well knows, since he conducted the examination as to the appellee's practice in this regard when Mr. Carter was on the stand. Mr. Carter stated that prior to 1914 and long before the period covered by the trial, it had been the

appellee's practice to estimate the cost of renewals and replacements, in respect of certain small units of property, such as those named, though not all of them, and charge off such an amount—annually or semi-annually, as the case might be—as would equal the cost of the units of such items lost or destroyed or withdrawn from service during the year, instead of charging off in detail such items of property when withdrawn from service.

Mr. Carter testified (Record, page 14,653):

> "We wrote that down instead of writing them down as they were taken out of service."
>
> "Q. How did you treat it after 1914?
>
> "A. We charged off the appliances themselves as they were withdrawn from service. In other words, I think that what we charged off on that percentage basis about amounted to what would have been credited to the account by taking the actual withdrawals. It was just a method that we did not like and we abandoned it."

In other words, the company never "depreciated" *any* of its property pursuant to anything approximating Appellant Newton's theory, but wrote off property of the kind referred to as withdrawn from service subsequently to 1914 precisely the same as it did its meters, services, mains, plant and equipment. Prior to 1914, as stated, the amount of these withdrawals, instead of being actual, was estimated.

Neither in intent nor in fact was the property in question ever written down as being *depreciated*. The amount actually credited prior to 1914 was the amount which it was estimated would be credited if each tool or implement or appliance

was separately accounted for, itemized, valued and written off. There was no reason why the Master should "explain" anything. Mr. Carter's testimony explained it fully, and left no ground whatever for the statements quoted from the Appellant Newton's brief.

The "Woodpile" and "Fleet-of-Taxicabs" Illustrations As Used by the "Depreciationists"

The "stock" arguments of the advocates of "accrued theoretical depreciation" are predicated on what may be termed the "woodpile" illustration and the "fleet of taxicabs" illustration. These fallacious illustrations were testified to at length by Milo R. Maltbie and other champions of the "depreciation" theory in the case at bar, as well as in *New York & Queens Gas Company vs Newton,* heard herewith.

Fallacy of the "Wood-pile" Illustration

On page 13,316 of the record at bar, Professor Maltbie confused a gas-plant with a wood-pile and gave it as his opinion that the plant disappears in the same manner as a wood-pile disappears as the result of "putting a chunk of wood into your stove right along," and adds, "that wood-pile is depreciating in value." The absurdity of this illustration is at once apparent to the sound thinker. A gas plant is not treated as a wood-pile is treated. There is no analogy between the withdrawal of wood from a pile and the operation of a gas-plant. No "chunks" of plant are taken out and consumed for fuel, or for any other purpose. On the other hand, if any part of a plant is taken out of service it is immediately replaced—otherwise the plant

could not operate. If the wood-pile were similarly maintained it would never diminish either in dimensions or in value. In other words the gas-plant is like a wood-pile to which a stick of wood is added every time one is withdrawn.

On page 13,137 of the record, Professor Maltbie endeavored to improve upon the wood-pile analogy by a clumsy attempt to expound the sophistries by which it is undertaken to demonstrate that a unit of equipment, when new, produces a certain store of productivity which diminishes progressively during its period of life expectancy and is finally reduced to zero. He said:

> "When you start out with anything there is a certain amount of service it will render and it has value because it will render that service. Now, as time goes on the amount of remaining service which that thing will render decreases as you go along and consequently the value of that commodity, or article, or plant, whatever it may be, decreases in value because the person who owns it has a shorter and shorter time to get service out of that plant or anything."

The falsity of this theory lies in the assumption that a gas-plant as a whole, or even 95 per cent. of the units contained in it, actually have any ascertainable limit to productivity. In other words, their capacity to produce runs to infinity. It is only what may be termed the "wearing parts" of a gas-plant to which may be attributed any limitation of productivity, but the renewal and replacement of such wearing parts constitute a proper item of operating cost and do not in any way affect the continuing productivity of the plant as a whole. The fact that the growth of a

utility's business or the development in the art of producing artificial gas may require that in the interests of economy and efficiency units of equipment, which would otherwise last indefinitely, be displaced, has nothing to do with the productivity of the unit. It is not because its period of productive usefulness has expired that it is withdrawn from service, but that the interests of economy and efficiency may be conserved. Such withdrawals, however, uniformly furnish their own economic justification. The loss involved in such withdrawals, if too large to charge against the revenue for the year in which the withdrawal occurs, should be charged against the revenues thereafter until the loss is amortized out of the earnings. There is no good or plausible excuse for providing for the loss involved in such withdrawals in advance of their occurring. The reasons are several and obvious. Aside from the fact that the rates paid by the users of an improved service should bear the burden of improving the service (and this does not imply that it is ever necessary to increase a rate in order to amortize the loss involved in a replacement for obsolescence or inadequacy, for no instance of the kind is recorded), is the impossibility of forecasting in respect of what unit of plant or equipment obsolescence or inadequacy will ultimately disclose itself and the consequent impossibility of adjusting the provision to the necessity—and even if this could be done, there would still be no justification for imposing upon the users of a given unit of plant or equipment the obligation of providing in advance for the loss involved in its ultimate displacement with no assurance that the then rate-payer would ever benefit by the transaction. In other words, an attempt to provide in advance

for future obsolescence and inadequacy (which are the only causes for which units of plant and equipment are displaced) would involve not only speculation as to the amount, but would lead inevitably to a burdensome rate and to the accumulation of a useless fund which could never be used for the purpose for which it was alleged to have been created.

Inasmuch as the rate for service, if properly adjusted to cover the operating expenses, includes a fair return on the investment, including the cost of maintaining the property by renewals and replacements as and when necessary, and providing the amount necessary to reimburse the company for the loss involved by renewals and replacements on account of obsolescence and inadequacy, it is obvious that no parts of the plant diminish in value so long as they are in use. The amount recoverable in the rates for renewals and replacement of plant for obsolescence and inadequacy is the amount in each case of the investment in the unit of the plant or equipment retired. Its value, therefore, suffers no diminution or impairment during the period that it is in use. The investor buys a plant which becomes secondhand the moment it is put in service. Theoretically, it has lost value; actually it has lost nothing, and the investment remains intact. In fact, the investment is in the plant as it may be found at any time during the period of its operation. The idea that something more than the cost of maintaining it should be collected in the rates in order to maintain the investment unimpaired has no basis in fact nor in economics. The absurdity of the theory that an investment in gas-plant becomes progressively impaired and must be compensated for by the accumulation of unnecessary

funds and the charging of an unnecessarily high rate for the service is best demonstrated by considering the investment made in the distributing system. When a company has removed a necessary amount of pavement and excavated a trench four feet deep and has installed therein a gas-main and has dug laterals and made house connections and has then refilled the trench and repaved the street-opening and has expended in this process say $1,000,000, it has, in substance, thrown that amount of money away, except as the law recognizes that the amount invested was invested in good faith in order to enable the utility to render a service in accordance with its franchise obligations, and that upon the amount invested it is entitled to earn a return so long as the investment remains in the property and is not refunded to the utility. So far as worth or value is concerned, independently of the franchise and the legal rights of the company in the premises, the buried mains and services have no value whatsoever. It would cost a great deal more to recover the pipe than it was worth. It would cost more to recover it than it cost to bury it. If the questions of worth and value are to be considered independently of the question of the investment, then the utility should collect from its prospective consumers the cost of installing the mains and services before they are installed, which would, of course, be impossible. The thing has but to be stated to disclose the nonsense of it, and if it is considered that such an investment may be made by a gas company with safety and propriety, then there is no ground upon which at any time any inpairment of the investment may be alleged as long as the mains

and services continue to perform their function of conveying gas to consumers. Every dollar thereafter expended on such mains and services becomes either a capital charge or an operating expense. If it becomes necessary, in order to meet a demand for a volume of gas in a particular section, the necessity for which could not be foreseen, to provide additional main capacity, the problem would be whether it would be better to install an additional main to the one already in use and of perhaps a corresponding size, involving the maintenance and upkeep of two mains instead of one, or of installing a single main of sufficient capacity to meet the demand and withdrawing the old main from service. The economic question presented in such a case is whether to make an additional capital investment of a given sum and charge against the revenue derived from the additional business to be obtained from the additional main capacity the interest on the capital and the cost of maintaining the main, or of amortizing the capital investment in the old main, installing a larger main and obtaining from the earnings of the larger main the amount necessary to maintain a single main instead of two mains, to cover the amortization cost in the main withdrawn and to pay a return upon the capital invested in the single main. The problem, when solved in accordance with the facts disclosed in the particular instance, adds nothing to the rates. The company has recovered—probably out of the earnings for the current year, and certainly out of the earnings for that and one or two subsequent years—the amount of its investment in the discarded main and the entire incident discloses no ground whatever for the accumulation of any reserves nor for the application of any theory of depreciation.

The proper method of dealing with a case of obsolescence may be briefly illustrated by citing the case of one of the Consolidated Gas Company's affiliated companies which, in addition to doing a gas and electric business, operated a trolley line. Its equipment consisted of the conventional surface cars. The proposition was made by the engineering staff that a new type of car known as the "one-man-car" could be substituted advantageously for those in use and that the economies resulting from the saving in the use of electric current required to operate the cars and in the wages of one man, would suffice to amortize the investment in the old cars within a period of three years. Instructions were, therefore, given to dispose of the old cars at the best price which could be obtained for them and to charge the loss involved in their withdrawal from service to a capital account entitled "Unamortized investment in cars withdrawn from service;" to buy the new cars and charge them to capital account and to charge against the operating expenses and credit to the unamortized investment in the old cars the amount of estimated savings, so as to amortize the balance of this account within a period of three years. No change was necessary in the rates in order to effect the result. This case is typical of what has been going on, in respect of all classes of public service corporations, including railroads, throughout the country, for the last half century. The method of bookkeeping may have differed and different terminology may have been used, but the substance and effect of the transaction was substantially the same.

On page 13,335 of the record, the Master asked: "How is the public interested so far as the cost of

gas to the public is concerned?" and then after Maltbie stated that there is depreciation notwithstanding the fact that a plant or property may be rendering sufficient service at the time (page 13,336), the Master said: "He is entitled to have a normally efficient, up-to-date, economically operated plant, isn't he?"

It is to be emphasized that what the Master described is exactly what the investor has put his money into. It represents his investment unimpaired and undiminished by any theory of expired life, in other words, by so-called "accrued depreciation."

On page 13,377 of the record, in answering the Master's question as to renewals and replacements and their being provided for in the rates, Professor Maltbie said: "I cannot see that they should be allowed for those repairs and disregard the other" (depreciation) "because the two things have got to be taken together." This is not true. They need not and should not be taken together. The only provision required in order to continue serving the public until the crack of doom is that for maintenance and repairs, and nothing else.

The Analogy to a "Fleet of Buses"

The witness Maltbie was asked by counsel for the defendant Newton to explain in his own way as to "the value of depreciation as applicable to a bus and a fleet of buses." The explanation which follows furnishes a striking illustration of the disingenuous casuistry of the professional depreciationist. He did not take a single bus because he knew that the absurdity of a computation applied to a single bus would disclose itself immediately. He does not even take ten buses

and work out his depreciation theory as applied thereto, but undertakes to make the computation more complex and involved by assuming that at the expiration of every year new buses are added to the fleet. To put the matter simply and to show why the owner of a single bus would handle his individual problem differently from the owner of a fleet of buses and to show why in neither case, nor in the case of a gas company, there is any excuse for using a bogus formula designed for the purpose of finding something that does not exist, it is only necessary to explain that the provident operator of a single taxicab, who expected to continue in business after his cab became inadequate or obsolete, would set aside out of his earnings and deposit in the bank such a sum, periodically, as would, at compound interest, equal the difference between the amount he would be able to obtain for his old cab and the amount he would have to pay for a better one. No one would question his right to collect in his fare the amount necessary to provide by the sinking fund method for the loss due to the obsolescence or inadequacy of his cab as nearly as he could compute it. No one would have the temerity to question his right, in the meantime, to collect a uniform fare for the use of his cab. It would be difficult to conceive of a situation where the operator of a taxicab would have to disclose to a prospective customer the period of life expectancy of his cab, the percentage of such life expectancy which had elapsed, and have his customer compute by a bogus formula called "straight line depreciation" the extent to which his fare should be reduced below that which he was entitled to charge when his cab was new.

The owner of a fleet of ten cabs is under no obligation to increase the number of cabs he has in service. If he started with a fleet of ten cabs he would probably have a great deal of trouble during the first year in making both ends meet. Two or three years would elapse before his profits became great enough for him to set aside in the bank, at interest, a sum designed to maintain by replacements, when necessary, a cab which became obsolete or inadequate. By no stretch of the imagination can it be assumed that his ten cabs would become obsolete or inadequate simultaneously, or that they would all be subjected to identically the same vicissitudes of vehicular operation. Furthermore, he would control his impulse to replace his cabs in accordance with his ability to do so out of his earnings.

The results of the actual operation of his fleet would probably spread his cab renewals over a period of several years, so that each year he would have to provide, out of his savings bank fund and out of current earnings, the amount necessary to replace a discarded cab, which would probably be sold to some one less fortunate and who operated in a less exacting district than he. With these financial problems which he has to solve the public has no concern. He performs his public obligation when he provides transportation at a rate not exceeding the statutory limit, with a cab which will hold together long enough to complete the trip. The fact that he has accumulated a sum in the bank toward the replacement of his equipment, which might be large or small accordingly as he is fortunate or unfortunate, provident or improvident, could not be used as an argument in favor of a diminution of the investment in the taxicabs upon

which he is entitled to earn a return. If he has set aside any money for this purpose, it is in the nature of a sinking fund and the authorities are perfectly clear that a reserve created upon the sinking fund basis may not be deemed a measure of depreciation for any purpose. It remains to be asserted by any one who speaks authoritatively, or understandingly, that taxicab fares should be adjusted to conform to so-called "theoretical depreciation" computed on the so-called "straight-line" method.

In the case of a corporation such as a gas company, with plant and equipment made up of units whose life, except for obsolescence and inadequacy, would extend to infinity, no reason discloses itself—or ever has disclosed itself—for the creation and maintenance even of a sinking fund for the replacement of property. As has already been made clear, the incident of obsolescence and inadequacy furnishes no excuse for burdening the rates for the purpose of creating reserves against which the loss, due to obsolescence and inadequacy, may be charged. The reason is that the rates, without such a burden, are adequate to cover the operating expenses and maintain the property and pay a fair return on the investment indefinitely. The rates without such a burden are sufficient to take care of obsolescence and inadequacy as it occurs because the ultimate effect of replacement for obsolescence and inadequacy is to reduce the cost and, eventually, to reduce the rates.

It cannot be alleged in respect of the various units of plant and equipment of the Consolidated Company that, taken collectively, they are in any worse condition physically than they were ten or

twenty or thirty years ago, or at any other period in the company's history. As a matter of fact they were never in better condition nor rendered more efficient and economical service than they are rendering to-day, and their productivity is greater per dollar of investment than it was thirty, or twenty, or ten years ago.

It cannot be alleged in respect of the plant and equipment of the Consolidated Company, taken as a whole, that any calculable percentage of any determinable period of life expectancy has expired. Taken collectively, the plant will last forever. Its life may be perpetuated to infinity by the renewal and replacement of parts subject to wear and tear. Its life, like that of the franchise under which it is operated, is perpetual. It cannot be alleged that the investment in the plant and equipment of funds obtained from whatsoever source is impaired by any physical or economical process, as for example by lack of newness. The plant as it is to-day is the plant in which the funds have been invested. It cannot be alleged in respect of the investment of the Consolidated Company that there has occurred what is termed by false theorists "capital consumption." Such a thing is not possible in the case of a public utility like the complainant. Unlike the wood-pile, the plant and equipment are not consumed. Units of plant and equipment are being withdrawn only to be replaced immediately by other units, by which means the investment is kept intact. It cannot be alleged that the Consolidated Company has accumulated a useless reserve disguised as a depreciation reserve or as a reserve for the maintenance of its property. It has been the Consolidated Company's contention throughout that no

such reserve should be accumulated; that it is contrary to public policy; that the companies do not require or desire it and that there should not be permitted in the rates any such reserve, since it involves an unnecessary enhancement thereof over the actual cost of the service, at the expense of the consumer, from which he derives no benefit.

Maintenance of Utility Property Matter of Physical Performance Under Commission Regulation, Not of Reserves or Accounting.

Reserves for depreciation are justified by their advocates on the ground that such reserves should be created and maintained in order to insure a proper upkeep of the property which would otherwise be allowed to sink into a condition of unrepair and inefficiency. This is altogether unfounded. A reserve represents a fund not yet expended *for the purpose for which it was created.* The mere existence of a reserve is no evidence that the thing for which it is created has been done or will be done. *Bien au contraire.* To attach any such significance to a reserve is to exalt form over substance. *The very purpose of the regulation of public utilities is not to create reserves but to see that service is safe and adequate*, and rendered at reasonable rates. The power and duty of the regulating body is to see to it directly that service is rendered which conforms to statutory requirements and that the plant and equipment is maintained by repairs and renewals and replacements in a condition to render such service. Specific powers are given the Commission to order repairs, replacements and betterments. (Pub. Serv. Comm. Law, Secs. 65, 66). Power to require a "depreciation" reserve has not been conferred (*People*

ex rel New York Rys. Co. vs. Pub. Serv. Comm., 223 N. Y. 373). Securing the safety and adequacy of facilities and service is a matter of physical performance, not of reserves or accounting—of fact, not of theory or formula.

The Maryland Court of Appeals Rejects "Theoretical Depreciation" and Theories of "Life Expectancy" of Utility Plants.

In *Havre de Grace and P. Bridge Co. vs. Towers* (103 Atl., 319; P. U. R., 1918D, page 484), the Maryland Court of Appeals characterized as "*mere guess work*" all attempts to foretell the period of useful life of engineering structures, such as the radical depreciationists would base an accounting system upon. The Court said in part:

> "No item of depreciation, as such, appears in the tabulation, though it is probably intended to be covered under the so-called 'main depreciation reserve.' This was based not upon any direct ascertainment of actual deterioration in the bridge structure, but upon the basis of the estimated future life of the bridge. *It is difficult to characterize this by any other term than guess work.* The engineers gave the estimate of the probable duration of such a bridge from the time of its construction. This was followed up by an estimated duration of the bridge in the condition in which it was at the time when the valuation was made, and which, if correct, would show a far longer period of durability than would have been anticipated at the time when first constructed. This is a factor which under the circumstances of this case is in the highest degree speculative and impossible to measure in terms of dollars and cents, as the Commission undertook to do.

"Then superadded to all of the considerations thus far noted was the following: 'We have given consideration to the circumstances therein set up and have construed them as creating substantial equities in the public with respect to the rates of toll proper to be charged over the bridge in question.' Just what these supposed substantial equities were, the opinion of the Commission throws no light upon, but having them in mind, and after the deductions already mentioned, an allowance, and apparently a substantial allowance, was made for these equities, with the result that the value of the bridge was decreased $100,000 and its value fixed at $250,000, and the tolls attempted to be adjusted so as to yield to the stockholders of the Bridge Company a proper return upon such valuation.

"*By a similar process of reasoning, it would have been entirely possible to have reached any valuation which might have been desired. This is not intended as in any way reflecting* upon the *bona fides* of the intent of those constituting the Public Service Commission, either in fixing the fair value of the bridge, or the rates promulgated by the Commission's order but it is important as showing that the method adopted and result obtained was unreasonable.

"It is not the function of this Court either to fix the valuation of the property or the reasonableness of the rates. Its sole power and duty is to examine those rates in the light of the method by which they were obtained, and say whether in our judgment the same were reasonable or unreasonable, and, after careful consideration, we are bound to hold the action of the Commission unreasonable, and the decree appealed from must, therefore, be reversed." (Italics ours.)

The Idaho Supreme Court Rejects "Theoretical Depreciation."

The fundamental proposition has been stated with great clarity by the Supreme Court of Idaho in *Murray vs. Public Utilities Commission* (150 Pac., 57; P. U. R., 1915F, page 436), in reversing the ruling of a majority of the Idaho Commission and sustaining the contentions made in the minority opinion of Commissioner Ramstedt in the *Pocatello Water Company* case. The Idaho Supreme Court said in part:

> "So far as the question of depreciation is concerned, we think deduction should be made only for actual, tangible depreciation, and not for theoretical depreciation, sometimes called 'accrued depreciation.' In other words, *if it be demonstrated that the plant is in good operating condition, and giving as good service as a new plant, then the question of depreciation may be entirely disregarded.*"

To the same effect see *Sandpoint vs. Sandpoint W. & L. Co.*, P. U. R., 1915F, pages 445-464 (Idaho).

The Idaho Public Service Commission has subsequently rejected the "accrued depreciation" theory with great positiveness. The fair value of the property of the *Wood River Power Company*, an electrical corporation of Idaho, was fixed by the Commission, on January 10, 1921, at $312,360.86. In arriving at this value, no deduction was made for accrued depreciation. The Commission gave its reasons for this as follows (P. U. R., 1921B, page 531):

"Depreciation is a general term used to cover all of the factors affecting the physical serviceability of a public utility property that cannot and need not be currently met, but which will ultimately force retirement or replacement. Service is not a thing of the moment, but includes the future, and the assurance that service will be continuous for so long as the users demand and are willing to pay for it. The assurance of continuance of service is of even more importance than is the service presently rendered. Business and living plans are made in regard to it. Community and district growth are affected by it, and it may be said that service to-day is a convenience, while the assurance of continuous future service is a necessity. The physical serviceability of a utility's property means both its present ability to carry the load and its power of continuing in service in the future. When the property is all physically new its physical serviceability is at its highest point, but this new physical condition cannot be maintained. The passing of time—age; the development of new devices or better means of service—obsolescence; the growth of service needs in the community or district served—inadequacy—all of these contribute to the deterioration of the physical element of the property while in use. The effect of these cannot be met or offset from day to day or year to year, but in spite of repairs and upkeep cumulates to a point where retirement or replacement is necessary. When a public utility engages in the business of serving the public it assumes a responsibility for keeping its means of service in such condition that the service will not be interrupted or impaired. Its property cannot be removed and used elsewhere so long as it is needed in service, and it can not be permitted to run down or get out of

repair to a point where service is affected. Because it is not possible to meet the factor of depreciation from day to day or year to year, the full serviceability of the utility's property can be maintained only when there is a provision against the time when retirement or replacement must be made. This provision must necessarily be financial in its nature. It must be reasonably liquid so that its use, when needed, will not be unduly delayed; it must be reasonably adequate in amount, and it must be fully protected at all times. From the nature of the obligation which rests upon the utility this provision is as much a part of the utility's property as any physical unit in it, and when present it makes the immediate physical condition of the property unimportant, as whatever may have gone from the physical through use is represented in a ready financial ability to retire or replace, when necessary. Serviceability of a going public utility is part physical and part financial, the relative importance of each factor being a matter of constant change under operation, but the total remaining unchanged."

In *Re Campbell Bros. Water Company* (case F-396; Order No. 752, February 25, 1921), the Idaho Commission made no allowance for "accrued depreciation" of a water company's property, where no "tangible depreciation" was observed and the property was in every respect in efficient "service condition."

The Wisconsin Commission in its recent cases has uniformly taken the position that depreciation should not be deducted in arriving at a rate base, lacking definite proof that a depreciation reserve has been earned and that it has been appropriated

to the investor. Notable among the decisions of this Commission are those in the case of *Milwaukee Electric Railway & Light Company, et al., vs. City of Milwaukee,* P. U. R., 1918E, pages 1, 27, and *Re Mineral Point Public Service Company,* P. U. R., 1919A, page 795. The case first cited made the following ruling (page 27):

> "Reproduction cost new less depreciation can be used as the final measure of fair value for rate-making purposes only upon the assumption that the utility has not only earned the sum represented by depreciation in excess of a fair return on the original investment, but has also returned the same to the investors, retaining no depreciation reserve represented by assets."

A similar position has been taken by Commissions in other states, the New Jersey Board of Public Utility Commissioners having decided, on July 17, 1919, *Re Medford Gas Company,* P. U. R., 1919E, page 707, that

> "accrued depreciation should not be deducted from the value of utility property for rate making where the net earnings have not been sufficient to provide for it together with a fair return."

The Public Service Commission of the State of Washington, in *Public Service Commission ex rel. the Pacific Power & Light Company,* thus declares its policy in the matter of the deduction of accrued depreciation in fixing value for rate-making purposes (P. U. R., 1920-F, pages 954-57):

> "If a utility has made a sufficient earning in the past to set aside a depreciation reserve for the purpose of replacing worn out units, as occasion required, and instead of using or holding such reserve for such purpose, has distributed the revenues al-

lowed for the depreciation to its stockholders in the form of extra dividends, in such case a regulatory body would be justified in deducting depreciation from the fixed capital account. *In any other case, a deduction of the depreciation from the investment necessary to render public service would be in the nature of confiscation* and would tend to divert capital away from public utility investment." (Italics ours.)

In *Public Service Commission of Washington vs. Kelso Water Company* (P. U. R., 1919E, page 206), the same Commission said:

> "We believe there is thought worthy of consideration in an article entitled 'Theoretical Depreciation,' by George N. Webster of New York, wherein he states:
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> 'The method of unsound valuation against which this article is directed may be described briefly as the "cost less depreciation" method. The "cost" may be "original cost," "average cost," or "present cost." The depreciation which is deducted therefrom, and which may be said to have its origin in the concept that used property is less valuable than new property, is based upon the assumption that used property becomes uniformly less valuable during the period of its alleged life expectancy, starting at 100 per cent. value and ultimately reaching zero value. The amount to be deducted is computed by finding the ratio of the expired life to the assumed total life, and by applying that ratio to the "cost;" the amount thus obtained, deducted from the "cost," is supposed to represent the "present value."
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> 'It is not conceivable that anyone could give the subject of depreciation of the

> kind here illustrated serious consideration without discovering its utter fallacy. That so few have raised their voices in protest against it must be attributed to the fact that few have really considered it seriously. These, who are unalterably opposed to the theory, include some economists, some members of the judiciary, a few of the Public Service Commissions, some executives of corporations, and some members of the legal, engineering and accounting fraternities. They have discovered that the question is not one of engineering, nor of accounting, but one of economics and finance and the legal protection of property rights.' "

In *Re Arkansas Light & Power Company* (P. U. R., 1920D, page 775), the engineer testifying before the Arkansas Commission, in behalf of the municipal authorities, had filed a physical valuation of the company's electric light and power plant, based upon original cost where the figures thereof were obtainable from inquiry, and upon a ten-year average of prices prior to 1917, where original cost data was not available. The engineer then arrived at a "depreciated value" by assuming a 50-year life for the plant, and a 17-year depreciation thereof, at two per cent. a year, on a "straight-line" basis. Quoting with approval the decision of the Washington Public Service Commission in the *Kelso Water Company* case (see page 99, *ante*) and its excerpt from the Webster monograph, the Commission concluded: "This method of valuation cannot be accepted by the Arkansas Corporation Commission," adding, significantly: "An unwise administration of regulatory law will drive capital from this field and bring on public calamity by causing the utilities to cease to function."

In *Re Gardiner Electric Light & Water Company* (P. U. R., 1920D, page 821), the Montana Public Service Commission refused to make any deduction from a valuation based on actual investment, where no reserve had been created out of earnings and the earnings had been inadequate. The Commission intimated that a deduction for "depreciation" would be made only if the company sought to claim a return based on "appreciation," in the form of the present reproduction cost of its property.

The Brooklyn Borough Gas Company Case and Other New York Rulings

The decision of Ex-Justice Charles E. Hughes, as Referee in *Brooklyn Borough Gas Company vs. Public Service Commission for the First District* (17 State Dept. Rep., 81, 103, 104), is sometimes claimed as a precedent for a deduction of "accrued depreciation" from the reproduction cost of property. In that case, the distinguished Referee simply deducted from the reproduction cost of the property, as found by the Public Service Commission and *as entered by the Company in its fixed capital account as the book cost of its property,* the amount which *the company itself carried* in the general reserve account entitled "Accrued Amortization of Capital," representing the "total extent of accrued depreciation *according to the plaintiff's estimate.*"

The Referee observed that:

> "There is *no evidence whatever to impugn* the correctness of this estimate of the accrued depreciation or of the propriety of the annual additions to the depreciation re-

> serve, or the correctness of the total estimate of accrued depreciation by the account known as 'accrued amortization of capital' as it stood on December 31, 1917."

The Referee stated the basis of his action to be that:

> "There is simply deducted the amount of *its own estimate* of the accrued depreciation in its plant (17 State Dept. Rep., 81, 103)."

The Court will observe that there is nothing in Justice Hughes' opinion in this case or in the *Minnesota Rate Case* which justified the appellant Newton in referring to them as "strongly supporting the claim made by appellants." The exact reverse is true. In the *Brooklyn Borough* case, the defendant authorities had presented elaborate tables of "accrued theoretical depreciation," prepared by Mr. Adams. This theory of the case and these tables the Referee rejected and based no deduction upon them. He deducted *only the company's own estimate of the depreciation!*

The New York Public Service Commission for the Second District, while following Judge Hughes' view that the reserve must be deducted where the company has itself created such a reserve, ruled recently that *when no "depreciation reserve" has been created by the company, no deduction for depreciation should be made from fixed capital.* If the company itself creates and carries on its books such a reserve, the Commission held that the amount thereof is of necessity deducted by the State regulatory body in arriving at the *quantum* of property investment upon which the company is entitled to earn a return. In *Complaint against Binghamton Light, Heat & Power Company* (24 State Department Reports, 651, at page 655), the Public Service Commission for the Second District, in a unanimous opinion by Commissioner Irvine, held:

"The company has failed to set aside as a depreciation reserve as much as was recommended by the Commission in a capitalization case in 1916. Its books now show a reserve of $170,830.67. The books indicate that this has all been reinvested in plant and should, therefore, be deducted from fixed capital in obtaining a rate base. It is claimed that the deduction should be on the basis recommended. While the Court of Appeals has, in a case relating to this very company, emphatically declared the necessity of such a reserve (*People ex rel. B. L. H. & P. Co. vs. Stevens*, 203 N. Y. 7) it has also declared that the Commission is without power to impose upon a corporation any specific requirement therefor (*People ex rel. N. Y. R. Co. vs. P. S. C.*, 223 N. Y., 373). As the Commission may not directly impose such a requirement it would seem that it may not indirectly do so by charging arbitrarily against the fixed capital a non-existent reserve sufficient to meet its ideas of what should properly have been set up. Nothing has been taken from the public on this account beyond the amount actually set up and there has been no obsolescence or retirement decreasing the efficiency of the plant or not reflected in credits to fixed capital."

See, also *Hoffman vs. Elmira Water, Light & Railroad Company* (N. Y. Pub. Serv. Comn., 2nd Dist.; January 22, 1920; P. U. R., 1920D, page 266; *Ibid*, P. U. R., 1921C, page 409; *Re New York State Railways* (N. Y. Pub. Serv. Comn., 2nd Dist.; P. U. R., 1921C, page 496). In both the cases last cited, the Commission refused to deduct "accrued depreciation" from the "original cost" of the utility property, but based such action, at least in part, on a finding that the "present value" of the property was at least the investment therein, without deduction.

In *Amherst vs. Snyder Gas Co.* (P. U. R., 1921D, page 540), the New York Public Service Commission held:

> "The company has on its books a reserve for accrued amortization of capital of $7,085.94. The record shows, however, that it has not earned a full return upon its actual investment. This reserve has been accumulated from funds which would otherwise have been properly available for dividends. It has been contributed by the stockholders and not by the rate payers. It should, therefore, not be deducted in this case in arriving at a rate base."

In *Re Rates of Katonah Lighting Company,* decided by the present Public Service Commission of New York State on July 14, 1921, the Commission, through Commissioner Semple, laid down the rule as follows:

> "The company as of December 31, 1920, reports a reserve for accrued amortization of capital of $17,324.16. A study of the record indicates that the company, during its existence, has not earned a full return upon its investment and that the reserve represents purely a book figure and has not been contributed by the rate payers. It should therefore not be deducted in this case in arriving at the rate base * * *."

In other words, in ascertaining the so-called "rate base," the making of a deduction, even of the amount of a "depreciation reserve actually accrued on the company's books" from the investment is regarded as warranted only if it appears (1) that the utility has earned in addition to such reserve enough to yield it a fair return over and above operating expenses, including the cost of

maintaining its property; and (2) that the utility has nevertheless failed to repair and maintain its property and has permitted its productivity and service condition to deteriorate through such failure. No deduction at all from the book investment was made by the New York State regulatory body on any theory that any percentage of the "service life" of the utility's plant and property had already expired.

As to the appellee, it is true beyond all dispute that the 80-cent rate was never intended to provide for the accrual of any reserve for "theoretical depreciation," has never been utilized by the appellee for any such purpose, as we shall show under the next point, and, as we have shown under Points VIII and IX, *ante*, would not have yielded had the appellee so desired. The Circuit Court in the prior suit refused, as we have seen, to allow anything for any kind of depreciation, and this Court held the 80-cent law compensatory, by the slightest possible margin, in 1906, on the basis of excluding any provision whatever for any kind of depreciation. Had the Circuit Court in the prior suit made provision in the rate for the accrual of a reserve of such considerable proportions, the doing of this unsound thing would have burdened the rate to the point of clear confiscation. With all provision for depreciation excluded from the rate in the prior suit, it can hardly be claimed in this suit that the 80-cent rate permitted the accrual of such a reserve.

POINT XVI

THERE IS NO FOUNDATION FOR THE APPELLANTS' CLAIM THAT THE APPELLEE HAS ACCRUED A "DEPRECIATION RESERVE" OR "SURPLUS."

In their efforts to whittle away the appellee's investment in property used in public service, the appellants' briefs (Attorney-General's Brief, Point V; District Attorney's Brief, Point IX), renew the contention that in earlier years, now long past, this company accrued a "depreciation" reserve or surplus, deductible, according to his theory, from the company's investment, in determining the amount of property investment on which the company is entitled to earn a reasonable return. *Admittedly* the appellee has done no such thing since 1913; in fact it *never* has. The account carried by the appellee from 1906 to 1913 was no such thing as the appellants claim (Rec., pages 14,569-70).

The contention of the appellants finds its only pretext in the testimony of Professor A. F. Weber, statistician of the appellant Commission. At page 11,542 of the record, Professor Weber was asked:

> "Q. Does the Company carry an account entitled 'depreciation reserve' such as you have labelled your calculation here?
>
> A. *At the present time it does not.* It has carried such an account during the period between 1906 and 1913. *My recollection is that the last year in which it was carried was 1913.*" (Italics ours.)

Further examined, he stated:

> "A. I do not believe that the word 'reserve' was used in the title of the account."

The implication that the appellee had carried a "depreciation reserve" account during the period from 1906 to 1913 but omitted the word "reserve" from the title of the account, is without any foundation of fact, and the contrary was correctly found by the Special Master and the District Court. The appellee did carry during this period an account under the title "Depreciation." The term was used in the sense in which it had been understood from the time of the formation of the appellee as representing the actual cost of making renewals and replacements of property as the need therefor arose. (Record, pages 14,569-70). It has never been or been considered anything else.

This is not a contention developed for the exigencies of this suit. It is a fact of record at least as far back as 1906.

In the prior suit (212 U. S. 17) of the appellee in this Court (See page 873 *et seq.* of the record therein), excerpts from which were read into the present record by the defendants' counsel in cross examining on this point, this account was fully explained in 1906. Mr. Carter has shown to have been asked by Senator Page at that time (page 873):

> "Q. Now, on the books of the Company prior to the opening of this account, where were your renewals and replacements being kept, in what account?
>
> A. They would be kept in an account which we called 'Depreciation Account.'
>
> Q. Have you such an account still on the books?
>
> A. We have such an account on the books at the present time."

It was further explained that the account was a Suspense Account into which was charged the cost of renewals and replacements as they occurred during the year and that it was closed out by being charged against the reserve for Renewals and Contingencies. It was stated that the account showed "the actual expenditures for replacements and renewals during the year."

Reference was made in the prior suit (212 U. S. 19) to Complainant's Exhibit 79, in which, in the column headed "Depreciation" (renewals) "since consolidation," the aggregate cost of renewals from November 11, 1884 to October 31, 1905, was shown to be $4,770,982.72. Regarding this exhibit, Mr. Carter was asked, in 1906, by Senator Page (Record, pages 874-875):

> "Q. Then this amount of $4,770,982.72, would show the amount of actual depreciation, if we may so express it, of your plant in the 21 years last past?
>
> A. Yes, sir.
>
> * * * * *
>
> Q. You have never calculated then what the actual depreciation would be per thousand cubic feet?
>
> A. Oh, always. We know every year what the actual renewal and replacement cost is per thousand cubic feet of gas sold.
>
> Q. What was the actual depreciation for the year 1905 per thousand as shown in the books of the Company?
>
> A. 2.12 per thousand."

At Senator Page's request, a statement was prepared which became "State's Exhibit L" in the prior suit, in which the appellees' cost of repairs and renewals for the period from 1884 to 1905 inclusive was shown. The amount expended

for renewals during the period, as shown by this Exhibit, was $4,663,838.32. The gas sold during this period amounted to 150,233,079,000 cubic feet, establishing as the average actual cost of renewals and replacements for the twenty years 3.10 cents per thousand cubic feet sold. From 1905 to 1918 the expenditures amounted to $7,901,649.08 and the sales to 220,413,574,000 cubic feet, or an average during the fourteen years period of 3.58 cents per thousand feet. The entire cost of renewals during the period from 1884 to 1918 inclusive amounted to $12,565,487.40, the total sales amounting to 370,646,653,000, or 3.39 cents per thousand cubic feet sold.

The term "depreciation" as used in the accounts of the appellee, has never had any other meaning than the actual cost of maintaining the manufacturing and distributing plant and equipment in efficient operating condition by renewals and replacements.

For a great many years the appellee had an account entitled "Depreciation." It was a debit account. It was not a reserve account in any sense. It was a suspense account against which was charged plant and equipment retired during the year; at the end of the year the balance in the account was charged to profit and loss, prior to 1905, and to a renewal and replacement reserve created for the purpose, through monthly charges in operating expenses thereafter.

In 1913 the title of the account was changed from "Depreciation" to "Renewals and Replacements"—the latter title being deemed to more explicitly define the purpose of the account, and to be free from the misinterpretation to which the

term "depreciation" had become liable, owing to its misuse by advocates of "Theoretical Depreciation," a kind of depreciation which the company believed to be without economic justification; which the experience of thirty years demonstrated to be unnecessary; which the Master and the Court in the prior proceedings rejected, and for which the eighty-cent rate made no provision. The appellee has never made any provision for "theoretical depreciation." To the knowledge of its executives there has never been any such factor in its business as "theoretical depreciation," and therefore no occasion for providing for it. The appellee has repeatedly stated to the Commission, in explanation of its renewal and contingent accounts, that there was nothing carried therein that had any reference to the maintenance and upkeep of the appellee's property or its investment therein except the amount actually expended and charged against the fund annually, representing the costs of such maintenance and upkeep of its property by renewals and replacements.

On the appellee's books, as the Commission's accountant Frank testified in this case, the expense accounts do not include any such item as contingent expense or renewals and replacements. Several years ago, in an endeavor to conform to the wishes of the Commission (as the Company understood them), the Commission having objected to the Company's carrying its provision for contingencies and for renewals and replacements in a single account they were separated. The provision for renewals and replacements was computed at 3 cents per thousand cubic feet. During the entire period from 1906 to the present

time the actual cost of maintaining the property by renewals and replacements have been charged against the renewal and contingency account, until 1915, and against the renewal and replacement account thereafter. The provision made for renewals and contingencies up to 1915 was charged directly to Profit and Loss account and the amount provided for contingencies for 1916 and 1917 and for renewals and replacements for 1916, 1917, 1918 and 1919, was charged directly to Profit and Loss account. The unexpended balance in the contingent account and the unexpended balance in the renewal and replacement account have been deemed segregations of the surplus earnings. They have been so treated in all income tax reports and an income tax has been paid upon the amount set aside. In the statements of earnings filed in these proceedings, no charge has been made against the earnings except for the *actual cost* of renewals and replacements as shown by the appellee's books. The unexpended balance in the renewal and replacement account, as well as the balance in the contingency account, is included in the net earnings from the gas business. They are so considered and so treated by the appellee.

The appellee's annual reports to the Commission have plainly indicated the Company's intent to make annual provision for the renewal and replacement of its property sufficient to cover actual expenditures and that no other provision was contemplated and that no amount was provided to cover any theoretical depreciation of its property or impairment of its investment. The annual reports to the Commission contained full information as to expenditures for renewals and

replacements each year which represented the actual depreciation (in the only sense in which appellee has ever used the term) in the appellee's property; in other words, actual cost of maintaining it by renewals and replacements. In the blueprint statements circulated every year by the Statistical Bureau of the Commission, the information given in the annual report of the actual cost of renewals and replacements was disregarded and the entire provision for renewals and replacements and for contingencies was treated as an appropriation of the appellee's surplus. Similarly, in the reports filed with the Legislature, the amount provided for renewals and for contingencies was treated as an appropriation of the appellee's surplus earnings. It was in order to obviate this that the provision for renewals and replacements and the provision for contingencies were segregated and separately shown in the reports to the Commission, and thereafter the provision for renewals and replacements computed at 3 cents per thousand cubic feet of gas sold was included in the appellee's expenses and provision for contingencies treated by the Commission as an appropriation from surplus.

For the last three years no provision has been made for contingencies and the provision made for renewals and replacements has been shown in the Commission's blue-prints as an item of expense.

There is no ground whatever for any claim on the part of the Commission's Statistical Department that the appellee has set up any reserve for depreciation, or that it has carried any depreciation reserve or provided any depreciation re-

serve fund. The appellee's correspondence with the Commission and its books of account plainly indicate that there is no ground whatever for this assumption.

The so-called "contingent reserve", described by the defendants as created out of the revenues of gas operations in earlier years, is shown by the record (Testimony of Weber, page 11,539 *et seq.;* testimony of Carter, page 14,569, *et seq.*), to be *not* an amount earned by the complainant from its gas business in addition to the amounts shown in Exhibit 366 but only an amount set aside by the trustees of the Company, *out of net income derived from all sources, principally* sources other than gas operations but including net income from gas operations in the years when the gas business did yield some, even though an inadequate, net income. Exhibit 366, showing the revenues, expenses and deficits below a fair return, for the years 1906 to 1917, both inclusive, was made up without any relation to this segregation; in other words, it was neither charged to operating expenses nor deducted from revenues; both the revenues and expenses were stated by Mr. Teele in this table just as though no segregation to this "reserve" had been made. All that this account represents is a segregation of *otherwise distributable surplus derived from all sources,* such segregation being for a specific and stated purpose, viz., "as a provision against fire, flood, earthquake, insurrection or riots, or any other hazards," to which might properly be added, in the light of recent history, the word "war."

It is not an accumulation charged against operating expenses or a "reserve" for obolescence, inadequacy or any similar purpose, but

only a safeguard created by the corporate directors, out of moneys they would otherwise have distributed to stockholders.

As a matter of fact, Dr. Weber, chief statistician of the defendant Commission, admitted (Record, page 11,539 *et seq.*) that this was merely a reserve out of surplus, and that both the appellee and the Commission had always reported and treated it as such. The appellee's reports to the Federal tax authorities have likewise treated the amount of this "reserve" as net income set aside as a segregation of surplus, and Federal income taxes have been paid upon it on that basis.

Appellee's earnings *from its other investments* alone enabled appellee to create such a reserve and at the same time pay interest on its obligations and dividends to its stockholders. This is the *substance* of the matter whatever may have been the *form or method* of effecting it.

Upon this state of facts, we submit that it would make no difference, as to the right of the appellee to earn a return upon the investment in its gas properties, whether the amount thus reserved was invested therein or not. As a matter of fact, however, the appellee's investment as hereinbefore stated, in the year 1918, ($51,081,393.99) exceeded its investment in 1906 by only $2,490,906.23, and in view of the fact that the appellee possessed other available resources, it may not be assumed that even this increase represents an appropriation of this particular "reserve."

In this connection, this Court's attention is respectfully invited to the Federal Water Power Act, passed by Congress in June, 1920, which pro-

vides for an amortization reserve and for a reserve for depreciation sufficient to maintain, by renewals and replacements, the project works of licensees in a condition adequate for the purposes of navigation for the efficient operation thereof (Section 10). The new Water Power Act provides also, in the definition of "Net Investment" (Section 3), that, in determining the net investment, such reserves shall be deducted from the cost of the property only "if and to the extent that such items have been accumulated during the period of the license *from earnings in excess of a fair return on such investment.*" This is a declaration on the part of the Congress that in the absence of affirmative evidence that it has been accumulated from earnings in excess of a fair return, even a depreciation reserve may not be deducted from the investment.

Here the "reserve" referred to by the appellants is not a "depreciation reserve" or anything like it, but the rule laid down in the new Federal Water Power Act is significant.

See, also, *Amherst vs. Snyder Gas Company* and *Re Rates of Katonah Lighting Company*, cited and quoted from on page 459, *ante*.

POINT XVII

THE PROPERTIES ACQUIRED BY THE APPELLEE COMPANY IN 1884 REPRESENTED AN INVESTMENT BY THE PREDECESSOR COMPANIES IN EXCESS OF THE PRICE PAID THEREFOR BY THE APPELLEE.

The elements of labor and materials entering into the cost of construction and development of a gas enterprise had cost more, in the years from 1820 to 1884, than such construction cost in 1884, when the appellee acquired the properties from the predecessor companies. This will appear from any of the standard charts showing the unit or "index" costs of labor and materials with which this Court has become familiar and is fully shown in the present record. This portion of the appellee's brief is written in rejoinder to the contention—inconsequential and immaterial though it has been held to be—that the property acquired by the Consolidated Gas Company on November 11, 1884, had cost the predecessor companies not less than it cost the Consolidated Gas Company. We do not believe that under the prior ruling of this Court (212 U. S. 19) construing what took place with legislative sanction in 1884, this Court is concerned at all with computations as to what the property acquired by this company in 1884 may have cost the predecessor companies when it was first installed, but we wish to refute from this record the inference of an "original cost" less than the cost to the Consolidated Gas Company and show it to be in nowise supported by the proofs in the present case, even if contrary to the ruling below, the so-called "Yalden report" be deemed proof of the verity of any *facts* therein purported to be set forth.

We shall demonstrate that not only was the tangible property acquired by the Consolidated Company in 1884 of the value of $29,994,000 at which it was appraised and taken over, but that it had undoubtedly cost the six predecessor companies an expenditure of at least that much, and that the appellants' suggestion that the cost of this property to these predecessor companies was only $20,942,632.85, is unsupported by the evidence, is contrary to the facts of common knowledge as to the trend and level of prices prior to 1884, and is based on a misconception even of the matters appearing in Senate Document No. 47 and the so-called "Yalden report." Under our understanding of the law and the facts governing this case, inquiry as to the outlay of the predecessor companies for property sold to the appellee in 1884, is wholly academic; but in view of the repeated claims that this property of the six companies appraised (Exhibit.....) at $29,994,000 in 1884, originally cost them only $20,942,632.85, we deem it opportune to point out the absolute misapprehension upon which such assumption is based.

The person who purported to make up tabulations for the Committee of 1886, Mr. J. Yalden, made up certain tabulations from books before him, and attached them to his report, showing a total (under the heading "Cost of Property") of $20,942,632.85 (Senate Document 47, page 776); but neither the scope nor the meaning of these tables is understandable *without examination of the detailed testimony of himself and others before the Committee*, explaining how the tables were made up, what items were omitted therefrom, and how the various accounts from which he obtained his figures had been treated. Such testimony the defendant's counsel failed to discuss.

Knickerbocker Property Omitted

It should be noted at the outset that the heading "Cost of Property," used in Mr. Yalden's tables in this connection, is a characterization coined by Mr. Yalden and, unless taken in connection with the testimony itself, would be entirely misleading. There is not claimed to have been any such classification or heading in the books of the constituent companies. As a matter of fact, Mr. Yalden, as he plainly stated, had before him the books of only *five* of the six constituent companies (S. D. 47, pages 233, 283, 286, 781) and said $20,942,632.85 covered no property of the Knickerbocker Company, except $810,000 expended by the Municipal Company on the Knickerbocker system (S. D. 47, pages 283, 291, 292) after the Municipal leased the Knickerbocker; and this $20,942,632.85 merely represents the figures at which certain property of the five companies, whose books were present, was carried on their books at that time * * * after charging down depreciation of very large sums.

But, as appears by the uncontradicted testimony before the Committee of 1886, the Knickerbocker plant represented a total expenditure of $3,385,000 (S. D. 47, pages 52, 53, 278, 279, 282, 284); so that the $20,942,632.85 excluded $2,575,000 of "cost" so far as the Knickerbocker property was concerned (S. D. 47, page 292). The Knickerbocker plant was appraised in 1884 at reproduction value then of $2,472,000; but if we discuss "cost," we must be consistent and not fall back upon reproduction value where it happens to be less than "cost."

The plants of the Knickerbocker and its predecessor (The Union Gas Light Company)

were built following the Civil War, when gold was at a premium and values of labor and material high; the result was, as President Kennedy of the Mutual company testified (S. D. 47, page 397), that construction during that period was expensive and this accounted for the high cost of gas properties then erected, as compared with the period subsequent to 1880.

Additional Omissions

(a) In addition to the Knickerbocker omission of $2,575,000, it appears that the *New York Gas Light Company* arbitrarily wrote down its property by at least $2,929,357.97, which it wrote back again at the time of consolidation in 1884. In this connection Mr. Yalden testified (S. D. 47, pages 435, 438) in language, a little distorted by the reporter, but of intelligible purport, as follows:

> "The methods they used in keeping their accounts previously, by writing the debit of profit and loss to the credit of appreciation account, and so lessening the *actual* cost of their property, amounting to such a sum that enabled them to write it back again, and *reinstate the property at something like what it cost.*"

(b) So, too, the *Manhattan Gas Light Company*, whose plants "were as good as new" in 1884, according to Mr. Yalden (S. D. 47, page 368), had (in addition to keeping its plants in such condition), as he admitted, arbitrarily written off $2,030,000 in *ten years* on a plant which originally cost only $2,400,000 (S. D. 47, page 339).

As an illustrative detail, it appears by Yalden's summary (S. D. 47, page 638) that, during the ten years from 1871 to 1881, the Manhattan Com-

A. Yes, sir.

pany wrote off of mains, meters, and services *alone* the sum of $768,517.96, while during that period, the additions to those accounts amounted to but $147,630.70, making the book value of such property at the end of the period more than $600,000 *less than at the beginning*, in spite of the growth of the company (page 638); in other years other amounts were written off, the exact amounts of which Yalden failed to state (page 639).

(c) The Municipal Company had in like manner arbitrarily written off $804,107.74 (S. D. 47, page 741).

(d) The charging *down*, above referred to, was in addition to and exclusive of the expenditures for current repairs and renewals, which kept the plants of the companies in question in efficient condition (S. D. 47, page 361); their effect was, as Mr. Yalden directly recognized in his testimony as quoted above, to bring the book value of the property to such extent below its "cost." The amount, so charged off by the Manhattan Company, as above, amounted to between 8 and 9 per cent. per annum on its plant for the ten years in question, and for the other companies perhaps as much or even more. The temptation to increase property at expense of current earnings, without adding to capital or construction account, was great, for many of the constitutent companies were at that time earning and paying substantial dividends (S. D. 47, pages 718, 719, 722, 723, 739). Yalden distinctly testified that it was the *practice* of *all* the companies in their prosperous days to "hide away some of the profits" by writing down the value of their property (S. D. 47, page 440).

Summary

The omitted items of the Knickerbocker, New York, Manhattan and Municipal Companies, identified and pointed out by Yalden himself, unquestionably represent but a few of many like items; but taking those only into consideration, we have the following computation:

Figures at which certain plant and property transferred to the Consolidated Company in 1884, were carried on the books of the constituent companies (excluding those of the Knickerbocker Co.) as per Yalden....		$20,942,632.85
Knickerbocker Company—Cost..	$3,385,000.00	
On Books Municipal Co.....	810,000.00	2,575,000.00
N. Y. Gas Light Co.—Amount of property was written off, although plant was as good as at time of consolidation, as per Yalden's statement, to bring it back to "something like what it cost".....		2,929,357.97
Manhattan Gas Light Co.—Amount likewise written off, although plant was as good as new at consolidation, as Yalden states....		2,030,000.00
Municipal Company—Amount likewise written off, but written back at consolidation, as Yalden states, as in case of the New York Gas Light Company.....		804,107.74
Total		$29,281,098.56

To this must be added most of the cost of *doubling the capacity* of the Harlem plant, the cost of *filling in its waterfront and constructing its bulkheads, all of which was charged to expense* and did not appear in the property account of that company at all, according to the undisputed testimony before the committee (S. D. 47, pages 323, 324), and other similar expenditures not shown in the construction account of the various companies; and it is perfectly clear, supported by such most convincing illustrations and figures, that the original *cost* of the properties of the six companies in 1884 was substantially and very largely in *excess* of the $29,994,000, at which it was then appraised, and not less.

Senate Committee of 1885

As the report of the so-called "Committee of 1885" contains what purports to be the substance of testimony given by the president of the Equitable Company as to the capital required for constructing of a plant of given capacity, as follows:

> "R. M. C. Graham testfied that in his opinion $15,000,000 would be a fair estimated capitalization to produce a yearly output of 5,000,000,000 feet—the equivalent of $3 capital to each 1,000 feet on such a large output."

we feel it proper to add a word on that subject.

A careful reading of Mr. Graham's testimony before the 1885 Committee (pages 302-323 and 325-331 of its Report) fails to disclose a *single statement* of his which *even inferentially justifies* the observation of the Committee above quoted; on the contrary his testimony expressly and repeatedly negatives any such conclusion—as examination of such record, which is a public document subject to the scrutiny of this Court, will show.

(*a*) He distinctly stated on page 306 of the Committee's report that

> "It would cost from $20,000,000 to $25,000,000 capital to furnish 14,000,000 cubic feet of gas per day,"

which would mean (multiplying by 200 to get the annual capacity) 2,800,000,000 cubic feet *per annum;* so that to produce an annual output of 5,000,000,000 cubic feet, would require a capitalization, according to Mr. Graham, of *$35,714,285 to $44,642,850*, or *$7.14* to *$8.92* of capital for each 1,000 feet of annual output.

Even Mr. Graham's smaller amount, $20,000,000 for 14,000,000 feet daily capacity, would give an average cost per million cubic feet of capacity of $1,428,510—at which rate the property of the complainant with a capacity of 28,000,000 cubic feet in 1884 (S. D. 474, page 522) would have been valued at $39,998,300 instead of $29,994,000, at which it was, in fact, appraised.

(*b*) Mr. Graham's own plant, the Equitable, according to his testimony (page 314 of 1885 Committee) had cost $2,700,000 for a capacity of 2,000,000 cubic feet, or at the rate of $1,350,000 per million feet of capacity, or $6.75 per thousand feet of annual capacity; while the plant of the Mutual Gas Light Company was shown by Yalden in 1886 to have cost $1,764,100 per million feet of capacity (S. D. 47, pages 398, 767), or $8.82 per thousand feet of annual capacity, at which rate complainant's property would have been valued at $49,392,000 instead of $29,994,000. These two companies were both operating *water gas plants*, costing much less for both land and apparatus than a coal gas plant.

Mr. Graham also testified (page 307 of 1885 Committee):

> "We have considered that $1,000 meant a thousand feet per day, but that *would not answer for New York City—land is too high.*"

that he would then have to pay one-third more for land than when he purchased it in 1882, three years before; and that the Manhattan and Metropolitan Companies manufacturing by the "*coal-gas process*" would require "*much more land * * * I should think they would want twice as much.*"

(*c*) The only explanation of the Committee's statement as quoted above, is that they construed Mr. Graham's testimony (page 327 of 1885), that "He could put up a *plant* to make 4,000,000 cubic feet per day," as referring to *all the property* of the company, whereas it did not include real estate, mains, valves, services, meters, bulkheads, piers, water rights, office buildings, furniture, laboratory and other property required in the production and distribution of gas; and that furthermore the Committee may have erroneously assumed that the annual capacity was 365 times the maximum *daily* capacity, while in fact said annual capacity is about 200 times the maximum daily capacity, as is testified and explained by Bradley and Mayer (Record, prior suit, pages 95, 1649-50), and accepted and conceded by all other witnesses and counsel in this proceeding (Record, prior suit, pages 1887, 5313, 6897, 6898).

(*d*) So, too, Mr. Graham, who had been connected with the Municipal Company for four years, testified (page 328 of 1885 Committee) that the appraised value at which its manufacturing plant was taken by the Consolidated Company in 1884 "would not be $100,000 out of the way one way or the other;" while his statement that "it would cost to duplicate (the mains of the company) at least $10,000 a mile," would give a value of $780,000—or $31,000 *in excess of the value at which they were appraised in 1884.* And, moreover, Yalden's testimony in 1886 respecting the cost of the Equitable property demonstrated that the appraised value of the mains, meters and services of appellee in 1884, agreed almost exactly with the *cost* of the Equitable Company's mains, meters and services installed *within two or three years* of the investigation of 1886.

Equitable Company:
60 miles of mains (S. D. 47, page 483),
$683,132 (S. D. 47, page 774).

Consolidated Company:
722¾ miles of mains (S. D. 47, page 777),
$7,417,000 (S. D. 47, page 779).

(c) Perhaps the most striking way to make patent the error in the deductions from the testimony of Messrs. Graham and Kennedy by both the Committee of 1885 and also the Committee of 1886, and to illustrate the fair valuation of the 1884 and 1906 appraisals of the appellee's property, is to present the following tabulation:

Summary of R. M. C. Graham's testimony before the Senate Committee of 1885; and comparison with (1) the Cost of the Plant and Property of the Equitable Gas Light Company in 1886, (2) the cost of the New York Mutual Gas Light Company's plant and property in 1886, (3) the appraised value of the complainant's plant and property in 1884, and (4) the value in 1906 of appellee's plant and property—excluding franchises and good will and 18th Street property, condemned:

		Cost per mil. cu. ft. capacity.	Cost per m. cu. ft. of annual capacity.
Graham, page 306, Report Senate Com. 1885:			
"It would cost $20,000,000 to $25,000,000 capital to furnish 14,000,000 cu. ft. of gas per day."			
$20,000,000 for 14,000,000 c. f. capacity		$1,428,510.00	$7.14
$25,000,000 for 14,000,000 c. f. capacity		1,785,700.00	8.92
Graham, page 307, Report Senate Com. 1885:			
"We have considered that $1,000 meant 1,000 cu. ft. a day—but that would not answer for New York City; land is too high"		1,000,000.00	5.00
Graham, page 314, Report Senate Com. 1885:			
The Equitable plant capacity cost $2,700,000 for a capacity of 2,000,000 c. f.		1,350,000.00	6.75
Graham, page 330, Report Senate Com. 1885:			
Asked about the cost of producing a plant like the Municipal, capacity 4,000,000 c. f., he said $4,500,000. I think it could be done for that	1,235,000.00	5.62	
New York Mutual Gas Light Co. in 1886:			
Capacity (Kennedy, S. D. 47, p. 398, 4,000,000 cubic feet).			
Cost (Yalden, S. D. 47, p. 767).			
Total	$8,284,515.55		
Less:			
U. S. Bonds	$993,984.17		
Treasury Stock	14,626.42		
Working Capital	219,472.79		
	1,228,083.38		
Invested in Plant and Property	$7,056,432.17	1,764,100.00	8.82
Equitable Gas Light Co. in 1886:			
Capacity (Graham, S. D. 47, p. 484) 2,500,000 c. f.			
Cost (Yalden, S. D. 47, p. 774)	$3,737,865.00		
Less Cash Assets	356,014.90		
Invested in Plant and Property	$3,381,850.10	1,352,740.00	6.76
*Note: This value was not questioned by Yalden or the Committee.			
Appraised value of Appellee's tangible property in 1884, $29,994,000 (S. D. 47, p. 779), Capacity 28,000,000 c. f. (S. D. 47, p. 522)		1,069,280.00	5.35
Value of Complainant's tangible property ($46,215,435.00, Sup. Ct. Rec., Vol I, p. 432), plus Astoria ($12,000,000, Sup. Ct. Rec., Vol. I, pp. 183, 247), $58,215,435.00. Capacity Consolidated (Sup. Ct. Rec., Vol. I, p. 185, 51,000,000 cu. ft.), plus Astoria (20,000,000 cu. ft.), 71,000,000 cu. ft.		819,936.00	4.10

Note that the only values per unit of capacity or sales which are lower than the appraised value of the appellee's tangible property in 1884, are (*a*) the value which Mr. Graham referred to as being "considered" *but* which "*would not answer for New York City; land is too high,*" and (*b*) the *value in 1906 of complainant's tangible property, including Astoria.* This, too, in spite of the fact that both the *Equitable* and *Mutual* Plants were *water gas;* while the complainant's plants in 1884 were 50 per cent. coal and 50 per cent. water gas, and in 1906 were (including Astoria), about 42½ per cent. coal gas and 57½ per cent. water gas.

Minority Report of 1886

A minority opinion does not carry much authority in court; but the appellants on the subject of "original *cost,*" seem to lay such store (in fact their *whole* store) by the expressions of Mr. Gilbert, the minority member of the Senate Committee of 1886, that a consideration of his statements will be instructive.

(*a*) He expressed his approval of the practice of capitalizing undistributed earnings and adds:

> "Where this has fairly and legitimately been done, and has resulted in an increase of actual capital in the true and correct use of the term, no criticism can reasonably be made."

This is what actually was done by the constituent companies, as incontrovertibly appears; and the fact that it was done was confirmed by Yalden's testimony above recited.

(b) Mr. Gilbert, after referring to one method of valuation, at another point says:

> "Another method of arriving at a *fair value* is by ascertaining what it would cost at the time of consolidation to *duplicate the property.*"

He then states that it may be "inferred" that this could be done for $15,000,000, and mentions two witnesses (the presidents of the *Equitable* and *Mutual* companies) as confirming that view (S. D. 47, pp. XLVII–XLVIII); whereas both testified that a gas property would cost $1,000,000 per million cubic feet of capacity (S. D. 47, pages 415 and 494; see also, Gen. Roomes' testimony, S. D. 47, page 523), which confirmed the value of $29,994,000 for the capacity of the new Consolidated Company (S. D. 47, p.XLVII)—the evidence being that the company could then "put out" 28,000,000 feet per day (S. D. 47, page 522), that it had land sufficient for a capacity of 50,000,000 feet (S. D. 47, page 523), and that by the expenditure of only $1,000,000 more the output of its plants could be brought up to 33,000,000 feet (S. D. 47, page 524).

Indeed, as has been already shown *(ante,* page 206, *et seq.),* the plants of the two companies (Equitable and Mutual) of which those witnesses (Graham and Kennedy) were the presidents, *cost* respectively, $1,352,740 and $1,764,100 per million cubic feet of daily capacity. Likewise in the minority report, Mr. Graham's testimony is misrepresented, in order to justify a statement that (S. D. 47, p. XLVIII) "with a capital of $20,000,000, he would hopefully undertake to furnish the whole city of New York with more gas than they required and also make considerable allowance for future growth."

A comparison of Mr. Graham's testimony (S. D. 47, page 494), with the minority report (S. D. 47, p. XLVIII), discloses these words as having been put into the witness' mouth by Mr. Gilbert and the examining counsel. The fact is that Mr. Graham described such an undertaking as a "*struggle.*"

After having given the cost of the original plant as being $2,850,000, Mr. Graham repeatedly stated that he would estimate additional plant to cost in the same ratio *even for ten times the existing capacity.* He held to this estimate, even though admitting that the original cost included $500,000 for patents (S. D. 47, page 484). The inquiry as to the current expenditures for the construction of a works then under way upon property stated by Graham to have cost $536,000 clearly did not relate to mains, services and meters (S. D. 47, pages 483, 484, 485), but only to "producing capacity."

If there be added to the cost of the Equitable plant as it then was, the $2,100,000 it was testified that that company was proceeding to spend on additional "producing capacity," and the estimated cost of additional mains, services and meters proportioned to the 3,000,000 cubic feet additional capacity from Yalden's statement on page 774, or $820,000, there results an amount of $5,770,000 for plant manufacturing and distributing 5,500,000 cubic feet. This is substantially the cost of $1,000 per 1,000 cubic feet which Mr. Graham used as a basis of his several estimates made under cross examination.

The minority report also represents the president of the Mutual Company as testifying that the 4,000,000 cubic feet plant of that company had

cost but $4,100,000 and that by a further expenditure of $1,500,000 the producing capacity could be doubled. The report then concludes that for $6,000,000 capital 10,000,000 cubic feet could be supplied to the city. However, a reference to Mr. Kennedy's testimony (S. D. 47, pages 397, 398) shows clearly that only the works were under discussion. The company's balance sheet as set up by Yalden (S. D. 47, page 767), gives cost of land, plant and distribution system as $7,056,432.17. If to this be added an addition to the $1,500,000 for extending the plant and $1,228,854.09 for the corresponding extension of the distribution system, there results $9,845,286.26 or $1,230,000 per million cubic feet for the Mutual Company's land, plant and distribution system extended to double capacity.

(c) Nor was there an atom of evidence in support of Mr. Gilbert's statement, that property represented by share or nominal capital had sometimes been diminished and in one case entirely destroyed (S. D. 47, pp. XXIV, XXV); on the contrary the testimony, as above indicated, is direct and ample that the property was greatly increased without any increase whatsoever in nominal or share capital.

(d) He states that the total cost of all the property paid for "by the stockholders, by original contributions, by surplus earnings, by stock treated as money, and from the proceeds of bonds and other loans was $20,942,632.85"; whereas this conclusion was not supported by the testimony of any witness before the Committee, but was (as above shown) *distinctly controverted by the testimony of Yalden himself.*

(*e*) He says, referring to investments in gas property, that "Such investments, unless replenished by fresh expenditures of *from 12 to 15 per cent.*, depreciate whenever in use"; whereas such a statement is absurd, and if it were accepted as true it would compel an allowance for "depreciation," which would *necessarily* raise the price of gas far above a dollar and twenty-five cents per thousand cubic feet in the present instance.

(*f*) He states at another point that "Each company therefore, that was urgent for consolidation, tried to make its own figures as high as possible; and there was no interest to interfere with any excessive valuation." Whereas it was to the interest of *every party to the consolidation* to interfere with any excessive valuation by every other party thereto, and all the witnesses familiar with the facts so testified. The value of the plants was not fixed by the companies themselves, but by an appraiser chosen by all; and although the value fixed for the Metropolitan proved quite unsatisfactory to that company, Mr. Zollikoffer, an officer of that company, testified:

> "I should have to be governed by Mr. Rowland's certificate, for he is a credible man and an expert."

The constituent companies were to receive the capital of the Consolidated company, *in the proportion that the value of the property of each bore to the value of the properties of all;* and assuming that the properties of the companies were appraised by the same man and on the same basis, it is obvious that it did not make a cent's worth of difference to them, whether the capital was $25,000,000 or $50,000,000—the stockholders of each company would own exactly the same proportion of the total property in either event.

(*g*) In another place Mr. Gilbert refers to the Mutual Company as having attained a capacity of 4,000,000 cubic feet with a capital of $4,100,000; whereas the value of the *assets* of the Mutual Company, in its gas business proper, amounted to at least $7,132,372.33, as shown by Mr. Yalden's own statement (S. D. 47, p. 767).

And when Mr. Gilbert made that statement, he knew that actual property, and not *share capital*, was the proper consideration, for at another point he said:

> "*In all discussions whatever*, whether in aid of legislation or to fix a fair price for gas or to arrive at a proper dividend or for any other purpose except to write a figurative or market value for stock, it should be assumed that the *actual* capital is as in the case before us an *absolutely distinct and different thing from share capital*, which is nominal capital."

It was precisely upon this basis that the consolidation was effected and the stock of the Consolidated Company issued. Furthermore, while the dividends paid by predecessor companies may have appeared excessive, expressed in terms of percentage of their nominal capital, such dividends would have been deemed conservative if expressed in terms of percentage of the actual cost of their properties.

(*h*) At another point he intimates that the Knickerbocker plant was of no substantial value; whereas it not only cost $3,385,000 and was appraised in 1884 at $2,492,000, but was so large that the operation of the Harlem plant was suspended and it was left to the Knickerbocker plant to supply the *whole upper end of the city* for some time after 1884 (S. D. 47, p. 322). It is now known as the appellee's 99th Street plant.

It is not necessary to point out further instances of inconsistency and unfairness in Senator Gilbert's expressions. *There is not a statement which he made at variance from the conclusions of his two colleagues, that is supported by the evidence before the Committee or that escapes condemnation by that very evidence.* His extraordinary statements and conclusions did not meet approval at the time, and the appellants' effort to attach importance to them in 1919 and 1921 is obviously inspired only by a desire to draw attention away from the operating costs of the years 1918, 1919 and 1920 and the time same elapsed.

The same claims as to the appellee's investment in its property were made by the defendants in the prior suit, based upon similar computations. They were rejected by the Special Master and by the District Court (157 Fed. 849), and were altogether ignored by this Court, whose decision (212 U. S. 19), proceeded on acceptance of the appellee's investment in 1884, pursuant to the legislative plan. Full examination into the pertinent facts shows the appellants' claim to be unfounded.

POINT XVIII

THE DECREE OF THE DISTRICT COURT AS AMENDED AND MODIFIED, SHOULD BE AFFIRMED, WITH COSTS EXCEPT THAT THE FORM OF THE DECREE SHOULD BE FURTHER MODIFIED BY THE ELIMINATION OF THE CONDITIONAL AND RETROACTIVE PROVISIONS COMPLAINED OF IN THE SEPARATE APPEALS TAKEN BY THE COMPANY IN THE CASES NOS. 258 AND 288.

Washington, November 1, 1921.

Respectfully submitted,

SHEARMAN & STERLING,
Solicitors for Appellee.

WILLIAM L. RANSOM,
CHARLES A. VILAS,
JACOB H. GOETZ,
of Counsel.

APPENDIX A

Table of Cost of Making and Distributing Gas as of Early 1920

(Showing Details of Elements of the $1.20 Rate Fixed by Judge Hand; see page 144 ante)

WATER GAS COSTS

			Cost per M cu. ft.
Generator Fuel (anthracite)			
To Generators	32.50 lbs. per M. @ $8.26 per gross ton		$.1198
To Boilers	2.50 " " " " 8.26 " " "	$.0092	
Boiler Fuel (anthracite	11.50 " " " " 5.12 " " "	.0263	.0355
Labor Handling			.0075
			$.1628
Gas Oil, 4.10 gals. per M. @ $.0710 per gal.			.2911
Iron Mass, City Water, etc.			.0100
Total Cost of Materials			$.4639
Residual Credit—Tar	.656 gals. " " " $.04	$.0262	
Residual Credit—Drip oil	.0615 gals. " " " $.057	.0035	.0297
Net cost of materials			$.4342
Gas Making Labor			.0250
Repair Labor			.0156
Repair Material			.0150
Miscellaneous Works Expense			.0125
Gas Storage Expense (Works and distributing holder)			.0100
Cost of Manufacture			$.5117
Cost of Manufacture per M. cubic feet sold			.5502

COAL GAS COSTS

Gas Coal (Bituminous) 200 lbs. @ $6.00 per gross ton							$.5358
Boiler Coal (Anthracite) 10 " @ 5.12 " " "							.0229
Labor Handling							.0200
Costs of Coal including Handling							$.5787
Residuals							
Coke and Breeze for sale or use for other than Coal Gas uses	100	lbs. @	$6.347	per	gross ton.	$.2833	
Coal Tar	1.2	gals. @	.044	"	gallon	.0528	
Ammoniacal Liquor (Sulphate)	1.5	lbs. @	.0176	"	lb.	.0264	
Ammonia (absolute)	.03	" @	.12	"	"	.0036	
Ammonia Sulphate	.30	" @	.0485	"	"	.0146	
Cyanogen	.15	" @	.29	"	"	.0435	$.4242
Residual Credits							$.1545
Handling Residuals, including Cyanogen Extraction							.0500
Net Cost of Coal							$.2045

APPENDIX A

(Continued)

Coal-Gas Costs (continued)

			Cost per M cu. ft.
Oil Enrichment water gas (use of high C. P..... 1.6 gals. @ $.0710 per gallan)..		$.1136	
Tar Credits ..... .25 " @ .04 " " ...		.0100	
Net Cost of Enrichment.....			$.1036
Iron Oxide, City Water, & Handling Spent Material, etc.....			$.0125
Gas Making Labor			.0900
Repair Material			.0600
Repair Labor			.0600
Miscellaneous Works Expense			.0150
Gas Storage (works and distributing holders).....			.0100
Cost of Manufacture			$.5556
Cost of Manufacture per M. cubic feet sold.....			.5974
Average station cost of mixed gas (on ratio of 22 per cent. coal gas and 78 per cent. water gas).....			$.5606
DISTRIBUTING AND GENERAL EXPENSE			
Repairs to Mains, Services, Meters and Miscellaneous Repairs		$.04	
Work on Consumers' Premises (setting appliances, burner work and jobbing sundries).....		.02	
Meter and Installation Work (gas meter and Installation work)		.0125	
Distribution and Superintendence, Street Departments and Shops		.0200	
Commercial Expenses		.0606	
General and Miscellaneous Expenses of Consolidated Co. (excluding Defensive Emergency Service)	$.0700		
Add General and Miscellaneous Expense of the Astoria Company in making gas for Consolidated Gas Company (excluding Defensive Emergency Service)	.0063	.0763	
Total Distributing and General and Miscellaneous Expense			$.2294
Renewals and Replacements of property used in service of consumers of Consolidated Gas Co....			.0350
Taxes paid directly by Consolidated Gas Company		.0675	
Taxes paid by Consolidated Gas Company as part of payment for use of others' properties used in making and distributing gas for Consolidated Gas Company		.0415	
		$.1090	
Less Taxes for Real Estate of Corporations and Interest thereon		.0114	.0976
Total Cost of Gas Sold by the Consolidated Gas Co.....			$.9226

APPENDIX A

(Continued)

Table of Cost of Making and Distributing Gas as of Early 1920

RESUME

	Present Cost Per M. cubic feet sold
Cost of Production (incl. gas storage)	$.5606
Cost of Distribution and Other Expenses as above	.2294
Renewals and Replacements	.0350
Taxes, as above	.0976
Total Cost of Production and Distribution	$.9226
Miscellaneous Operating Revenue	.0728
Cost less Miscellaneous Operating Revenue (excluding any return on the investment of the Consolidated Gas Company or on others' properties, and after deducting Miscellaneous Operating Revenues)	$.8498
Required for return of 8 per cent on investment of $4.05 per M. cu. ft. sold, as found by Hand, D. J.	.3243
Federal income tax based on 8 per cent return on investment	.0337
Rate required on basis of foregoing and hence fixed by Hand, D. J., at $1.20 per M. cu. ft.	$1.2078

APPENDIX B.

Table in connection with Point V (see page 221 hereof, ante), showing complete reconciliation between amounts set forth in the Books of Account of the Consolidated Gas Company and amounts set forth in its annual reports to the Public Service Commission under items referred to in appellant Newton's brief, pages 338-339.

"Distribution Supplies and Expenses."

1914		
P. S. C. Rept. (Exhibit AA245) page 56, line 10.....		$106,215.65
Operating Ledger Accounts (Exhibit 268, Record, page 2,871):		
Page 601—Distribution Supplies and Expenses	$67,467.42	
*Page 954—**Real Estate Rents Paid, proportion applicable to Street Dept. and Shops	32,759.90	
*Page 726—Repairs of Buildings, Street Dept. and Shops	5,988.33	
		106,215.65

Note.—*The form of annual report did not make any provision, under Operating Expenses, for reporting these two items separately, and they were, therefore, included under "Distribution, Supplies and Expenses," the only title which was sufficiently general to comprehend such expenditures.

**This amount was, in turn, a component of the sum of $105,736.32 appearing on page 954 of the Operating Ledger for 1914 (Exhibit 268).

1915		
P. S. C. Rept. (Exhibit AA245), page 56, line 10.....		$106,555.89
Operating Ledger Accounts (Exhibit 269, Record, page 2,871):		
Page 688—Distribution Supplies and Expenses	103,570.06	
*Page 806—Repairs of Buildings, Street Dept. and Shops	2,985.83	
		106,555.89

Note.—*See note for 1914 reconciliation.

1916		
P. S. C. Rept. (Exhibit AA245), page 56, line 4.....		$98,974.89
Operating Ledger Account; page 674 (Exhibit 270, Record, page 2,871)		98,974.89

Note.—The reproduction in the annual report of the identical figures which appeared in the Operating Ledger was made possible by a revision in the form of the annual report prescribed by the Commission for the preceding year.

APPENDIX B.

(Continued)

1917

P. S. C. Rept. (Exhibit AA245), page 56, line 4.....	$85,837.15
Page 51, line 29, includes, under Rents, the amount of....	*32,964.33
	$118,801.48
Operating Ledger Account (Exhibit 271, Record, page 2,871):	
Page 656—Distribution Supplies and Expenses.....	118,801.48

Note.—*The amount of $32,964.33 represents payments made during 1917 for property rented and charged in the Consolidated Gas Company's accounts to "Distribution Supplies and Expenses," in accordance with the regulations of the Uniform System of Accounts (Exhibit 15) page 44, Acct. 633, and page 57, Acct. 922 G, Note a. The form of annual report, however, required the company to show separately these rents paid on page 51, lines 26 and 29. The fact is that the form of annual report did not itself conform to the Uniform System of Accounts as prescribed by the Commission in respect of the item, and that the reporting company having in its books followed the Uniform System of Accounts, it was obvious that the individual accounts in the ledger could not be identical with the figures classified differently in the form of annual report.

*Page 51, line 29, includes, under Rents, the amount of....	*33,494.79

1918

P. S. C. Rept. (Exhibit AA245) page 56, line 4.....		$82,052.52
*Page 51, line 29, includes, under Rents, the amount of....		*33,494.79
		$115,547.31
Operating Ledger Accounts (Exhibits 189-190, Record, page 1,893):		
Page 738—Distribution Supplies and Expenses	$100,458.06	
Page 961—Commercial Distribution Supplies and Expenses	15,089.25	
		$115,547.31

Note.—*See note for 1917 reconciliation.

General Expenses—1909.

The schedule on the next page shows how each amount specified in the Annual Report of the Consolidated Gas Co. to the Public Service Commission (Exhibit AA 245), as set forth in the first column on page 339 of the Appellant Newton's brief, was derived from, and is reconciled with, the amounts set forth in the Company's Operating Ledger for 1909 (Exhibit 263, Record, page 2871), but incorrectly attempted to be compared with the figures under "Book Accounts" in the parallel column of the same page of that brief:

Operating Ledger (Ex. 263)

Folio	Title of Account		Amount	Page 40, Line 1, Salaries & Expenses of General Officers
933	Salaries—General Office		$266,186.09	$123,372.99
954	G. O. Supplies & Expenses	$179,627.20		
958	G. O. Supplies & Expenses, Gas Rate Appeal	774.90		
959	G. O. Supplies & Expenses, Franchise Litigation	292.37		
248	G. O. Supplies & Expenses, Employees' Societies Exp.	1,284.95		
			181,979.42	1,033.25
958	Legal Expenses		93,223.19	
965	Legal and Arrears Expense		20,186.32	
996	Franchise Tax Litigation		5,457.75	
1003	Real Estate Rents Paid (Proportion)		10,124.96	
984	Stable Expenses		86,988.13	
792	Repairs Bldgs. Elsewhere—Stables		5,142.00	
792	Repairs Bldgs. Elsewhere—General Office		3,547.93	
989	Automobile Expenses		14,819.12	
1000	Experiments		6,436.97	
			$694,091.88	$124,406.24

APPENDIX B. (Continued)

General Expenses—1909

Distribution for Purpose of Report to Public Service Commission (Ex. AA-245)

ne s s l	Page 40, Line 2, Salaries & Expenses of Gen. Office Clerks	Page 40, Line 5, General Office Supplies and Expenses	Page 40, Line 12, General Stationery and Printing	Page 40, Line 5, Miscellaneous General Expenses	Page 40, Line 4, General Law Expenses	Page 40, Line 14, Stable Expenses	Total
	$132,051.51	$10,761.59					$266,186.09
		13,354.85	$5,857.85	$161,733.47			181,979.42
					$93,223.19		93,223.19
					20,186.32		20,186.32
					5,457.75		5,457.75
					8,749.96	$1,375.00	10,124.96
						86,988.13	86,988.13
						5,142.00	5,142.00
		3,547.93					3,547.93
						14,819.12	14,819.12
				6,436.97			6,436.97
	$132,051.51	$27,664.37	$5,857.85	$168,170.44	$127,617.22	$108,324.25	$694,091.88